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COMPARATIVE GRAMMAR

OF

GREEK AND LATIN

KING AND COOKSON

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AN INTRODUCTION

TO

THE COMPARATIVE GRAMMAR OF GREEK AND LATIN

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PREFACE.

THIS book is in great measure an abridgment of our larger work, *The Principles of Sound and Inflexion in Greek and Latin*, and is intended for the use of junior students. It has been our object, avoiding all doubtful points, to give a clear statement of the main principles of the phonetics and morphology of Greek and Latin with adequate illustration. We have added a chapter on Comparative Syntax, for which we are chiefly indebted to Delbrück's *Syntaktische Forschungen* and Monro's *Homeric Grammar*.

We wish to express, as on a former occasion, our hearty gratitude to the Provost of Oriel for advice and assistance in the preparation of the book, and also to thank those friends who have helped us in the correction of the proof-sheets.

J. E. K.
C. C.

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INTRODUCTION.

CHAPTER I.

The Comparative Study of Language.

Study of language.

In any language we can study (1) the sounds of which its words are composed, (2) the formation of words and the grammatical forms which they assume in declensions, conjugations, &c., (3) their arrangement in sentences, or syntax. The study of a single language at one period of its history will only give us the rules of that language at that time. The study of the whole history of a language at all periods will give us more facts and rules. But to obtain wide conclusions about language in general we must compare different languages. In England the name of Comparative Philology has been given to this study, but, as Philology can include literature as well, the term is too wide.

The Comparative Philology or Study of the Indo-European languages aims at comparing the sounds, words and sentences of the different Indo-European languages in order to find out how they are related to one another and whether they can be referred to a common origin. In this book we are primarily interested in the Comparative Philology of the two Indo-European languages, Greek and Latin.

Sanskrit.

The Comparative Study of languages is not an old one. It began, in the modern sense, with the discovery of Sanskrit, the ancient classical language of the Hindus, towards the end of the last century. The ancient Greeks regarded all speech except their own as barbarous and unworthy of study. The Romans paid no attention to any language except their own and Greek; Caesar, though he wrote

a work on Grammar, did not think of comparing the languages of the nations he conquered with the speech of his fellow-countrymen. As long as Greek and Latin remained the only ancient languages known, the study of languages made but little progress. There was not sufficient ground for comparison and framing general conclusions by proceeding from what was known to what was unknown, and the study of words was confined to more or less successful hunting after etymologies.

Greek, Latin and Sanskrit.

Upon the discovery of Sanskrit it became clear that Sanskrit, Greek and Latin were all closely related to one another. The words for father and mother and other words of relationship, the names of parts of the body and of animals as well as the numerals in all three languages resembled one another: there was also a similarity of inflexion in the different declensions and conjugations. At first it was supposed that Sanskrit was the mother-tongue from which Greek and Latin were descended. But the Zend or ancient Persian, which was afterwards discovered, though resembling Sanskrit in many points, cannot be derived from it, and while it is true that Sanskrit has many forms older than the corresponding forms of Latin and Greek, yet many of the peculiarities of Greek and Latin are not derived from Sanskrit. Just as Latin is not derived from Greek, so Greek and Latin are not derived from Sanskrit. Both on the contrary, along with most of the languages of modern Europe and some of those of Asia, spring from one original mother-tongue, long since extinct, which in this book is spoken of as the original Indo-European language. The reason of this name will be explained later.

Grammarians.

The discovery of Sanskrit also involved the discovery of the Sanskrit grammarians. The grammarians of ancient Greece and Rome, whose methods had up to that time been followed in modern grammars, attended rather to the use and meaning of words in sentences than to the elements of which words are

made up. The Sanskrit grammarians analysed words into separate syllables, and noted the influence which neighbouring sounds had upon one another. The discovery therefore of the Sanskrit system of grammar gave great impetus to our science, since for the purpose of the comparative study of languages we must know with accuracy the sounds of each language and have therefore to break up words into their component parts.

Changes of Sound.

Our object is to compare the sounds and words of the Greek and Latin languages as to their form, and to shew how they have descended from a common origin. In this descent they have passed through a perpetual series of changes; for language even at the present time is altering slowly but surely from generation to generation, and the alterations must have been far more numerous and far more rapid in ages which possessed no literature and no printing press to check the tendency to change and keep it within bounds. The parent language from which they, in common with other kindred languages, are derived, split up into dialects, and these dialects eventually developed into so many distinct languages, differing from one another in countless particulars, which changed, and in the case of those still spoken continue now to change imperceptibly. If all these changes had to be learnt separately no benefit could be derived from learning them. But they admit of being grouped together under general statements, which are called *Laws*. For instance, the Greek *κύν-α* answers to English *houn-d* and *κῆρ-υξ* to *her-ald*, but instead of going through each separate instance we can group them under the general law that the Greek *κ* sound is represented by the sound of English *h*. Such laws are called *Phonetic Laws*, and may apply either to a single language or groups of languages, or to the whole body of language, according as they are special or general.

Phonetic Laws.

Phonetic laws are based upon the fact that when change comes in a language it extends to all those who have con-

stant intercourse with one another in that language. It is true that no one can pronounce the same sound twice in exactly the same way, because of the imperfection of the organs of speech. No one can sign his name to a cheque twice without minute differences between the two signatures, but the signatures are for practical purposes the same, otherwise one cheque might be dishonoured. Similarly though no two sounds pronounced are exactly the same, yet they are the same for practical purposes, and are recognised as the same by those whom we address, otherwise they would have no meaning. It is the possibility of infinite variation in the utterance of any sound that gives the opportunity for changes of sound, while it is the necessity of being intelligible which keeps the speech of those who have intercourse together practically the same. But in spite of the fact that sounds appear to be the same, and that a man of sixty may think that they are pronounced as they were when he was thirty, yet they have changed by gradations which are imperceptible to those who employ them. It is necessary to lay stress on this, because changes of sound are unconscious. If *h* disappeared in English it would not be because those who spoke English agreed to drop it for the sake of ease, or from sudden motives of laziness, but it would disappear gradually and imperceptibly.

Extent of Change.

Changes of sound come gradually and extend to all members of the community who employ the language in which they occur. They also extend to all words in which the sound, which is affected, occurs. Supposing that the pronunciation of the *k*-sound changes, it will not change in one particular word only, but the conditions being the same, it will change in all words in which it occurs. Hence it is that we are enabled to call the change a Phonetic Law which holds good universally. The Law of course may change. It only represents what holds good at the time it is stated. The change from Greek κ to English *h* went through a

series of changes, which we may represent by k, k^1, k^2, k^3, &c. . . . h. At each particular stage the Phonetic Law would have been different in its statement, but would have been equally valid.

Phonetic Laws are most easily observed in uncivilised nations, for with them the conservative influence of literature does not exist. Change is more frequent and more general, and in some savage tribes so rapid that one generation cannot understand another. In civilised nations change is controlled by literature and tradition, sometimes even entirely checked, in which case the language becomes dead, as has been the fate of Classical Latin. The healthy state of a living language is to be in equilibrium between the revolutionary and the conservative forces.

It may appear that there are exceptions to a Phonetic Law. For instance, in Greek it is a law that σ between vowels disappears, but yet there are such words as χαρίεσι which are exceptions to the law. Or again, a law which holds good in ordinary speech may be obscured when written in the spelling of literature. Or again, a word may be borrowed from another language or dialect, and so not fall under the law of the language into which it has been adopted.

Many of the apparent exceptions to the phonetic laws of Analogy. any language are due to the influence of *Analogy*. A considerable number of the words we use we have never actually learnt, but rather formed in imitation of other forms previously heard or used. Memory is not the sole agent in our speech. The power of association is another and a powerful one. Everyone must know how a child beginning to talk inflects its verbs upon the model of one or two already known to it. In the case of an adult these new formations are less common, for knowing more he has less need of them, but still it is possible for him to use in conversation a word which he has never heard or seen, but

which he forms instinctively on the analogy of other words. When Demosthenes said φιλιππ-ίζει ἡ Πυθία, everyone understood him, just as the meaning of such terms as 'Gladstonian' and 'Opportuniste' is clear in modern England and France.

New Forms.

By Analogy too new forms contrary to established usage are introduced, but unless the new form is accepted by a majority of the speaking society, it will never be used to the exclusion of the old. Sometimes it happens that the new form which is due to Analogy exists side by side with the form which is the result of Phonetic Law, e. g. Σωκράτην side by side with Σωκράτη. Where there is a similarity of meaning between one word and another or a group of words, the tendency is by analogy to make them resemble one another in form. Thus by phonetic law εἰ-μί takes the place of ἐσ-μι, side by side with ἐσ-τί, but instead of εἰ-μέν like εἰ-μί we find ἐσ-μέν on the analogy of ἐσ-τί and ἐσ-τέ. Analogy then leads men to systematise the different forms of words and arrange them in symmetrical groups. A few instances from different languages will illustrate this.

The regular Epic form of the third plural of κεῖμαι is κέαται, as the law is that ι between vowels should disappear; but upon the analogy of κεῖμαι we find in Homer κείαται as well as κέαται: elsewhere κεῖνται.

The participle βεβαώς resembles ἑσταώς, and so on the analogy of ἕστᾱκα (ἕστηκα) arose the perfect βέβᾱκα (βέβηκα).

In the same way γεγαώς resembles ἑσταώς, and on the same analogy we find in Pindar the perfect γεγάκειν.

Again from the stem of βασιλεύ-ς is formed the verb βασιλεύ-ω. On the analogy of this verb we have δουλεύω, but the noun from which this is derived is δοῦλο-ς not δουλευ-ς.

In French we find *aimons* (amámus), *aimez* (amátis) altered from * *amons*, * *amez* on the analogy of *aime* (ámo).

In Anglo-Saxon we find *fót*, pl. *fét*, answering to modern English *foot*, *feet*, but for A.S. *bóc*, pl. *béc*, modern English

shews *book*, *books*, following the analogy of words which form the plural in *s*. The preterite of the A.S. verb *rídan* was in the singular *rád*, *ride*, *rád*, pl. *ridon*. Modern English has throughout *rode* (=*rád*).

These then will serve as instances of the working of Analogy in altering the forms of words. It acts alongside of memory in creating new words on the model of old, and in bringing words related in meaning into conformity with one another.

Forms due to the action of analogy are numerous in the later stages of a language, but we are not to suppose that the power of creating new forms on the model of old was denied to the earlier stages. As the organs of speech were the same, so we must suppose the mental conditions to have been. The reasons which led to a change of language in the past must have been the same as the reasons which lead to changes of language now.

These two principles of Phonetic Law and Analogy are of supreme importance in the study of language. Under the first we learn that changes of sound take place in obedience to general laws, and that every word, in which the same sound occurs under the same conditions, is subject to the same phonetic change. Under the second we learn that new words are created and old words changed in obedience to their supposed resemblance to other words or groups of words.

CHAPTER II.

THE INDO-EUROPEAN LANGUAGES.

The Indo-European languages.

THE greater part of the languages and dialects of Europe as well as a certain number of Asiatic languages, can be grouped together as common descendants of a single parent-speech. The names of *Aryan, Indo-European, and Indo-Germanic* are all applied to this community of languages.

The term 'Indo-Germanic' omits all notice of Greek and Latin as well as of the Celtic and Slavonic languages; the term 'Aryan,' or better 'Arian,' is also applied in a more limited sense to the group formed by Indian and Iranian languages. We shall therefore employ the term *Indo-European*.

The Indo-European family consists of eight groups or smaller families of language, two of which are to be found in Asia and the rest in Europe.

Indian and Iranian.

1. The Indian and Iranian group. Of the Indian Sanskrit is the head. Sanskrit is the ancient literary language of the priestly caste of the Brahmans. The oldest form of Sanskrit (from c. 1500 B.C.) appears in the Vedas or sacred hymns; the later or classical Sanskrit is the language which conformed to the rules of the native grammarians.

The Iranian or Persian consists of the Old Persian, the language of the cuneiform inscriptions, and the Zend or Old Bactrian, which is the language of the Zend-avesta or sacred books of Zoroaster.

2. The Armenian family comprises the dialects of Armenia. Its principal characteristic is the possession of the vowel *e*, which distinguishes it from the other Asiatic languages of the Indo-European family. **Armenian.**

3. The Greek family comprises the different dialects of ancient Greece and their modern representatives. The traditional division of these dialects distinguishes Doric, Aeolic, and Ionic. The subdivisions of the spoken Greek were in reality innumerable and their mutual relations are not easy to determine. A broad division may be made into Ionic and non-Ionic dialects, based upon the Ionic change of ā into η. **Greek.**

The dialect spoken in the Ionian colonies of Asia Minor, in the Cyclades and in Euboea, and in which Herodotus wrote his History, is called New Ionic, while the literary language of Homer is called Old Ionic. With these goes Attic, which is distinguished into the Old and the New Attic. The Old Attic is the dialect of the tragic poets and Thucydides, and is nearer to Herodotus than the New Attic, which was used by the comic writers and the orators. New Attic has ττ for σσ, σύν for ξύν, ρρ for ρσ, and α for αι in such words as ἀετός, ἀεί, ἐλάα, &c. **Ionic.**

Of the non-Ionic dialects Doric in its different varieties extended over the south and east of the Peloponnese as far as Megara, the southern Cyclades and Sporades, Crete, Rhodes, the Dorian towns in Asia Minor and other Dorian colonies. The most prominent characteristic of Doric, as a whole, is the use of ā for Ionic η. Doric too preserved the digamma and did not change dentals to sibilants in such words as δίδωτι (= δίδωσι), τύπτοντι (= τύπτουσι). **Doric.**

Under the head of Aeolic are usually classed the dialects of Lesbos, Thessaly, Boeotia, Cyprus, Arcadia and Elis. The mutual relation of these dialects it is hard to determine. The Lesbian is represented in the lyric fragments of Alcaeus **Aeolic.**

and Sappho. It is marked by the retention of the original ā where Ionic has η, by the avoidance of the oxytone accent, in which it resembles Latin, and by the use of the smooth breathing, e.g. in ἴππος. The other Aeolic dialects are known chiefly from inscriptions. That of Northern Thessaly goes along with Lesbian and Boeotian, while Arcadian and Cyprian may be classed together. With the exception of lyric poetry, the chief forms of literature found expression in the Ionic and Attic dialects, and Attic became the leading dialect of ancient Greece. Under the Macedonian Empire it lost its purity and gradually passed into the κοινὴ διάλεκτος of Polybius and Plutarch. The vulgar speech formed the basis of the Hellenistic Greek of the LXX and the New Testament. Out of the κοινή have been developed the modern Romaic dialects.

Albanian. 4. The Albanian is classed apart from the Greek family; of its earlier history we have no records, so that it is difficult to speak with certainty of its relation to other groups.

5. The languages of the Italic family divide themselves into two main groups—the Latin and the Umbro-Oscan.

Latin. The earliest remains of Latin date from about three hundred years before the Christian era. One characteristic of this language is that there is no evidence of a subdivision into dialects till the time when it became the speech of the different provinces of the Roman Empire. The literary language naturally became more or less stereotyped at an early period, and still more entirely so in the epoch which begins with Lucilius and concludes with the Augustan Age. The vulgar Latin, on the other hand, was the speech of the common people, and it was this form of the language which passed into the *Lingua Romana* of the Empire and gave birth to the eight Romance languages of Southern Europe, Portuguese, Spanish, Catalan (in North Spain and Roussillon), Provençal, Italian, French, Rhaeto-

romanic (in the Tyrol, Engadine, &c.), and Roumanian or Wallachian.

Umbro-Oscan.

The Umbro-Oscan group consisted of the Umbrian, spoken in the east or north midlands of Italy, and the Oscan, spoken in the south midlands. Into the details of these languages it is not necessary to go here. One or two points of interest in their bearing on Latin may be noticed; (1) the use in Umbrian of a modified D at the end of words and between vowels, which in the Roman form of the Umbrian alphabet is written R or RS, and explains the Latin forms *ar-biter*, *ar-cesso*, *ar-fuerunt*, which seem as far as the prefix is concerned to be borrowed; (2) the preservation of sigmatic futures (Umbrian *beniest=veniet*, Oscan *didest=dabit*, cf. Latin *faxo, jusso*), and the preservation of *s* as the termination of the gen. sing. and nom. plur. of the A-declension (Umbr. *tutas* or *tōtar=urbes*, *urbis*, cf. Lat. *paterfamilias*).

Celtic.

6. The Celtic family comprises a northern group, consisting of Irish, Gaelic, and Manx, and a southern group, composed of Cymric, Cornish, and Armorican.

Teutonic.

7. The Teutonic family is divided into (1) the Eastern, comprising ancient Gothic, and Scandinavian with its subdivisions; and (2) the Western, consisting of English, Frisian, and the Low and High German languages. Our knowledge of Gothic is confined to the fragments of the Gothic translation of the Bible made by the Arian bishop Ulfilas in the fourth century. The Scandinavian group, which goes most closely with the Gothic, comprises Icelandic, Norwegian, Danish, and Swedish. Of the western group, English, Frisian, and Saxon go together; from Saxon sprang the later Low German dialects. High German is distinguished from the other Teutonic dialects by a different treatment of the mutes (p. 83). From High German and its dialects sprang the speech of the greater part of modern Germany.

Baltic and Slavonic.

8. Of the Baltic and Slavonic family Baltic contains the three divisions of Old Prussian, Lithuanian, and Lettish.

Slavonic is divided into (1) the southern, including Russian, Bulgarian, Servian, and Croatian, (2) the western, comprising the Czechish and Polish dialects.

Mutual relations of the families. The above are the eight chief divisions into which the primitive Indo-European language has split. To trace the process of separation and development is a more difficult task. Did our forefathers come, as has been usually supposed, from the plains in the neighbourhood of the Hindu-Kush mountains, or was Europe, as some have lately imagined, the cradle of our race? In what order did the different languages break off from the parent stock? Some writers have constructed genealogical trees showing the order of the migrations and separations of the different Indo-European groups. Thus it was supposed that the Indian and Iranian were the most ancient, and remained nearest to the primitive home of the race. The first to split off were the Slavs and Teutons, and these were followed by the ancestors of the Greek, Italian, and Celtic nations. But such divisions are too absolute, for though the members of these groups are more like one another than they are like other groups, yet each group has features which connect it with some member of another group. For instance the Asiatic families are distinguished from the European, but yet a special feature of the Asiatic languages, namely that they change an original palatal *k* into a sibilant sound, is also a feature of the Slavonic languages of Europe. This shows that languages cannot be rigidly separated into groups, because the different groups, though distinguished in some parts, overlap in others.

Genealogical theory. Genealogical trees of the different Indo-European races are to be regarded with a sceptical eye. To begin with, we do not know how numerous the primitive race was before the time of separation. As we attribute to it not only the origin of words and sounds but also the inflexions of a highly developed speech, the primitive language must have had a

long past history, and must therefore have been the language of a numerous race. Such a race would be spread over a wide extent of country, and in that case there must have been a tendency to form dialects. We need not assume that the primitive speech was everywhere the same, or that it did not vary like every language which is spoken by a numerous race in an extensive country and in an age when communication is not developed. The differences which we can discern in the languages of Europe may have begun in the dialects of the primitive speech before the Indo-Europeans left the plains of Asia, and afterwards have been increased.

A more satisfactory metaphor than the genealogical tree to represent the relations of kindred languages is to compare their differences to waves, by which we imply that all the languages of the Indo-European family formed once, as it were, a continuous whole. The parts which were adjacent stood in close relation to one another, and the splitting into different types was the result of differences of dialect, which arose within small limits and were gradually extended like waves. The relation of different languages is thus explained as much by geographical as by genealogical considerations. Neighbouring dialects borrow from one another, but dialects widely separate have no close mutual connexion. For instance, an original τϳ becomes ττ in Attic, Boeotian and Euboean, and in these dialects alone, since Attica, Boeotia, and Euboea are contiguous districts. In the same way rhotacism, or the change of σ into ρ, is introduced into later Laconian from the neighbouring Elis. The upshot is then that, if we take one peculiarity as the basis of our division of languages or dialects, they will be grouped in one way, but if we take another peculiarity the grouping will be different. No classification is final, but that is best which is most convenient for the purpose in hand. 'Wave' theory.

The Greek and Latin languages, which are the subject of Relation of

Greek and Latin.

our special attention, were once probably neighbouring dialects of the common speech, just as they afterwards became neighbours in Europe. They are the only Indo-European languages which have feminines of the O-declension, and their systems of accentuation are to some extent the same.

On the other hand, though the structure and vocabulary of Latin at first sight seems to connect it most closely with the Greek languages, it may be noticed that the two most characteristic points in the Latin verb—the future in *-b-* and the passive in *-r*—find their counterpart not in Greek but in Celtic, while much of the vocabulary common to Latin and Greek is also common to the other Indo-European languages, and on the other hand many of the names of the commonest objects have a different origin in the two languages, e. g. the names for *sea*, *earth*, *sky*. We have already seen that it is dangerous to attempt to determine too exactly the mutual relations of allied tongues, and we can only say that the evidence does not at present justify us in assuming that either Greeks and Italians or Celts and Italians ever formed one people distinct from the other members of the common Indo-European stock.

Relation of Latin and the Romance languages.

The relations of Greek, Latin, and Sanskrit to one another stand on quite a different footing to the relations in which the vulgar Latin or *Lingua Romana* of the provinces of the Roman empire stands to the modern Romance languages. The Romance languages are directly descended from the Lingua Romana, just as the Indo-European languages are descended from a primitive Indo-European speech. But we can prove the descent of the Romance languages from the Lingua Romana by historical inquiry. Both the mother tongue and the descendants are before us. The original Indo-European, on the other hand, from which Greek, Latin, Sanskrit, and the other Indo-European languages have descended, no longer exists. We have to reconstruct it out of the simi-

larities which we find between its different descendants. We can draw up a genealogical table of descent for the Romance languages, but this is not possible with the whole body of Indo-European languages, which are of much wider extent and much greater antiquity.

Besides *Genealogical* classification, we can classify languages *Morphologically*, that is, according to their system of grammatical forms, their declensions and conjugations.

Morphological classification. Language consists of words, grammatical forms, and syntax. Morphological as distinguished from Genealogical classification is based upon systems of grammatical forms, and it is by these that languages can be best distinguished into groups of larger or smaller extent.

Upon this principle of classification there are three great families of speech: *Radical*, *Agglutinative*, and *Inflexional*, distinguished according to the way in which they combine the roots or main significant elements of words with those other elements which mark the distinctions of person, number, gender, tense, mood, or case.

Inflexional. In the Inflexional group, to which all Indo-European languages belong, a distinction may be made between roots which are *Predicative* and roots which are *Pronominal*. The predicative are the roots of nouns and verbs, and form the bulk of roots in any language; the pronominal are a smaller body from which are derived pronouns, conjunctions, particles, and some prepositions. From the combinations of these two different sets of roots may arise the different parts of speech and their several inflexions, as for instance the cases of nouns. In the Inflexional type of language roots have no separate existence apart from words. In any Greek or Latin inflexion we discover the root, or main significant element which we can trace no further back, by breaking up the word into its parts. The terminations, which were possibly Pronominal in origin, have no independent meaning apart from their connexion with the rest of the word in which

they occur, e. g. -*μι* has no meaning when detached from *ἵστη-μι.*

To the Inflexional type also belong the Semitic languages, viz. Hebrew, Phoenician, Assyrian, Syrian, and Arabic. But these we need do no more than mention here, as with them we are not concerned.

Radical. The Radical or Monosyllabic languages, like Chinese, use roots as independent words, which depend for their meaning upon their position in the sentence. In such languages we find no formal distinction of the parts of speech, no inflexion, no derivation. They form a small minority of languages.

Agglutinative. Between the Radical and the fully Inflexional languages come the Agglutinative languages, approximating in varying degrees to one or other of the two extreme types. The characteristic of the Agglutinative languages, as a body, is that the roots do not remain apart as independent words as in Chinese, but yet do not combine so fixedly as in the Inflexional languages. If roots are combined, one bears the leading idea and the others tend to lose their individual meaning, but the combinations can be taken apart more readily than in Inflexional languages. As however the fusion of the elements of words is a question of degree, we can draw no hard and fast line between Agglutinative and Inflexional languages.

PART I.

SOUNDS.

CHAPTER III.

Classification of Sounds.

For the purpose of comparing languages we have to break up words into the sounds of which they are composed. Every word is a combination of different sounds, each of which is affected by the neighbourhood of the other sounds. Consequently to determine the nature of each separate sound is a difficult matter. The science of Physics tells us what the nature of a sound is, and the science of Physiology tells us the organs of speech with which it is uttered. Words composed of sounds.

A musical sound is a regular periodic vibration of the surrounding air, while a noise may be called an irregular vibration. Sounds can be distinguished according to their strength or loudness, and according to their height or pitch. Nature of sound.

The chief organs of speech are the lungs, and, speaking generally, the throat and the mouth. The breath is expelled from the lungs and afterwards modified in the throat and mouth. From the lungs it passes into the windpipe, and thence into the larynx. In the interior of the larynx are two ligaments, the vocal chords, forming an aperture which can be extended or contracted at will by the surrounding muscles. When the breath passes these ligaments, the pitch or height of sound is determined by the number of their vibrations, and the quality of the sound is further determined by the form taken by the mouth and throat. The roof of the mouth behind the teeth consists of the upper or hard palate Organs of speech.

and the lower or soft palate (*velum*), of which the lower extremity (uvula) can close the entrance to the nose passage. Apart from speech the breath passes through the throat, mouth and nose without appreciable sound, and the different organs lie at rest. In order to articulate, the passage of the breath is regulated and the position of the organs of speech is altered at will. A stream of air is drawn into the lungs and breathed out in bursts of different length and strength. Voice depends upon the contraction and vibration of the vocal chords; in the case of a whisper there is less, if any, vibration. In forming non-nasal sounds the passage to the nose is closed up. The sound is nasalised if the passage be open, in the case of vowels as well as consonants. In the French nasals *en*, *vin*, *un*, there is a guttural as well as a nasal element, not so much however as in the English *ng*.

Classification of sounds. The number of possible sounds is infinite, and to classify all is impracticable. For instance, in the word *cat* there is not only the *c*-sound, the *a*-sound, and the *t*-sound, but also the transitional sounds made in passing from *c* to *a* and from *a* to *t*. These are not represented in the spelling of *cat*. Again, no two human beings pronounce any of these sounds in exactly the same way, for it is not to be supposed that in pronouncing *c-a-t* everyone sends exactly the same amount of breath from his lungs, contracts or expands his muscles to exactly the same degree, or has exactly the same shape of throat or mouth as everybody else. Nor again would the same man be found to pronounce *c-a-t* twice in exactly the same way, nor could he do so unless he were a perfectly accurate machine. Consequently it is impossible to set down and classify all speech sounds. A limited number of types or normal average sounds is chosen, and upon their characteristics our definitions are based.

Vowels and Consonants. First of all we come to the great distinction between *Vowels* and *Consonants*, which dates from the time of Plato and the earliest inquirers. A consonant is the sound or

rather noise resulting when the breath is closely squeezed or stopped at some part of the mouth or breath passage. This passage has two outlets; one at the lips, the other at the nose. In the case of some consonants the passage is closed at a given point, e. g. at the lips in *p*, *b*; at the teeth in *t*, *d*; at the palate in *k*, *g*, while the nose passage is closed by the bottom of the soft palate. In the case of other consonants the passage is not closed but only narrowed, and the breath sounds against the narrow walls, as in *f*, *s*, *ch*, &c. The nose channel is left open in pronouncing *n*, *m*.

In the case of vowels the breath is not checked or closely narrowed at a given point, but passes freely through the mouth passage. With each different vowel-sound the mouth passage assumes, it is true, a different form which modifies the sound, but there is no check or hindrance to the free issue of the sound, nor audible friction after the breath has been vocalised by the vibration of the vocal chords.

Classification of vowels.

I. Vowels as well as consonants can be classified according to the place of their articulation in the mouth passage. Of course there is not with vowels as with consonants a complete or approximate stoppage at any point, but the places of articulation can be distinguished by the position of the tongue. Each new position of the tongue is accompanied by a fresh vowel sound. The tongue can be moved horizontally backwards and forwards, or vertically up and down. Thus in pronouncing *a* the tongue is moved backwards, in pronouncing *i* it is moved forwards horizontally. Again in pronouncing the *e* of *pretty* the tongue is moved up nearer the roof of the mouth, in pronouncing the *a* of *man* it is moved down vertically. All vowel sounds can be classified according to these horizontal or vertical movements of the tongue.

II. Every vowel sound can further be distinguished as *Open* (also called *Wide*) and *Shut* (also called *Narrow*). In the shut or narrow vowels there is more convexity of the tongue, and a sense of effort and strain in pronunciation.

III. Vowels again can be modified by rounding or projecting the lips.

A The following are instances of the most familiar varieties of vowel sounds. In *father* the *A* is open and the tongue is at the back of the mouth or *guttural.* In *man* and *hat* we have the same vowel with the tongue in a lower position.

I In French *fini* the *I* is *narrow*, and the tongue is further forward or *palatal.* The same vowel is open in English *bit.* In both sounds the vertical position of the tongue is high.

E A narrow palatal *E*, with middle vertical position of the tongue, is to be seen in French *été*, *aimer*. The same vowel is wide or open in English *head*, *end.* Of the vowel sounds modified by the action of the lips there appears a narrow

U guttural *U* in German *gut*, with high vertical position of the tongue, while the vowel is open in English *good* and *full.*

O A narrow guttural *O*, with middle vertical position of the tongue, is to be found in German *so*, *Sohn*, and with a low vertical position in English *lord*, *law*. A wide guttural *O*, with low vertical position of the tongue, occurs in English *not* and *dog*.

Classification of consonants. Consonants, as we have before remarked, are distinguished from vowels by the narrowing or stopping of the mouth passage, which in the utterance of vowels is kept comparatively wide and open.

1. Place. I. Consonants are classified according to the point in the mouth passage at which they are articulated.

Furthest back we have the *Guttural* sounds, with articulation of the tongue and the soft palate (*velum*): included in these are the sounds of *k*, *g* before the vowel sounds *a* and *o*, e. g. *cow*, *goose*, and such sounds as the *ch* of German *ach* and the *ng* of English *sing*. From the fact that the *velum* or soft palate plays a prominent part in their articulation these sounds are called *Velar Gutturals*.

Further forward we have the *Palatals*, which result from

the contact of the tongue and hard palate, such as *k* and *g* before *e* and *i*.

Next come the *Dentals*, where the tongue, teeth, and front of the palate are the instruments of articulation, e.g. *t*, *th*, *d*, *sh*, *r*.

Foremost in the mouth are the *Labials*, or lip-sounds, formed either by both the lips or by the under lip and upper teeth. Such are *p*, *b*, *m*, *f*, *v*.

II. Consonants can also be classified according to the form of their articulation. 2. Form.

When there is a complete check at the point of articulation, consonants are called *Mutes* or *Stopped* or *Explosives*, e.g. *k*, *g*, *t*, *d*, *p*, *b*. In the classifications of the ancient grammarians *Mutes* were divided into *Tenues* and *Mediae*, the name of *Tenues* (bare or thin letters) being given to *k*, *t*, *p*, and that of *Mediae* to *g*, *d*, *b*. The name of *Mediae* had no other meaning than that these letters were ranked between the *Tenues* and the *Aspirates* *kh*, *th*, *ph*. As we no longer regard the *Tenues* as thin letters, and gain nothing by calling sounds middle sounds, the terms *Tenues* and *Mediae*, though still employed, have lost their usefulness.

Where the mouth passage is narrowed but not completely closed at the point of articulation, we have the *Open* or *Fricative* consonants, such as *r*, *s*, *f*, *z*, *v*, the last four of which are also called *Spirants*.

Where the passage is stopped in the middle but kept open at the sides, we have a divided sound, such as *l*.

Where the nose passage is left open we have the nasals *m* and *n*. *N* takes its character from the nature of the neighbouring sounds; e.g. it is guttural in *sink*, but dental in *tent*.

III. Consonants may, thirdly, be divided into *Voiced* and *Voiceless*. 3. Voice.

The *Voiced* or *Soft* consonants are pronounced with a vibration of the vocal chords. To this class belong the *Nasals* *n*, *m*, the *Liquids* *l* and *r*, the *Mediae* *g*, *d*, *b*, the *Aspirated Mediae* *gh*, *dh*, *bh*, and the *Spirants* *z*, *v*, *w*, *j*, *y*.

The *Voiceless* or *Hard* consonants are the *Tenues p, t, k, q*, the *Aspirated Tenues kh, th, ph*, and the *Spirants s, f*.

Semi-vowels. There are some sounds which can play the part of either consonants or vowels. Such are the semivowels *i* and *u*, which as vowels are written *i* and *u*, as consonants *i̯* (*y*) and *u̯* (*w*). In the same way *m, n, r, l* can be used as vowels, when we shall write them *m̥, n̥, r̥, l̥*. Whether they are used as vowels or consonants depends upon their position. Between vowels they are purely consonantal, but before or after consonants they can be vocalised or made *sonant*. In such a word as *saddle* the *l* sound is vocalised or sonant, while in *captain* the *n*-sound is sonant in the same way. We might write them *saddl̥* and *captn̥*.

Glides. Besides the different sounds which we have classified, we have the introductory glides represented by the smooth and rough breathings. In singing a good singer begins from the outset with the voice, and allows no breathed introduction; in speaking there is an introductory breath before vowel sounds. If stress is laid upon this initial glide, there ensues the rough breathing *h*, in which the organs of the mouth are kept apart as for a vowel sound, but the vocal chords do not vibrate. The rough breathing may be regarded as an emphasised initial glide which varies in character according to the following vowel sound. It can also come at the end of a word.

Table of Consonants.

	Voiceless.	Voiced.	Guttural and Palatal.	Dental.	Labial.
Mutes ...	k, q, t, p	g, d, b	k, q, g	t, d	p, b
Aspirates	kh, th, ph	gh, dh, bh	kh, gh	th, dh	ph, bh
Fricative and Spirant	s, f	z, v, w, y, *j*	y, *j*	s, z	f, v, w
Nasal ...		n, m		n	m
Liquid ...		l, r		l, r	

Now that we have classified the different sounds we can pass on to their representation in alphabets. No alphabet attempts to represent all the sounds employed in any language. Accentuation, which is an important element of speech, is rarely denoted, and the same is the case with quantity. The alphabets in use only aim at roughly satisfying practical needs, and they were not invented in each case by the nations which employ them, but were borrowed from others. The alphabetic symbols remain comparatively unchanged, while the sounds they represent are continually changing, so that it is hard to get an idea of the sounds of a language from a study of its alphabet alone. If we learn a modern foreign language merely from books, we interpret the letters of that language in the light of our own corresponding letters. We give for instance English values to the vowel symbols *a*, *e*, *i*. We thus see that letters do not tell us much of the nature of sounds. They have the value which is associated with them in the minds of the people who use them. **Alphabets.**

So far we have spoken of letters as representing single sounds. Further difficulties arise when we come to the spelling of complete words. In the English language for instance spelling often does not represent the differences of sound. If spelling were scientific it would change with change of pronunciation; different sounds would not be spelt in the same way, and similar sounds would not have a different spelling. The bearing of all this upon the study of the classical languages of Greek and Latin is clear. They are no longer spoken, so that we cannot hear the living sounds. We only have the alphabets and the literary spelling, which, as we have seen, are imperfect instruments. But the transcription of Greek words into Latin and conversely of Latin words into Greek helps us in determining the actual sound of a word, and ancient grammarians also give an account of different sounds. **Pronunciation of dead languages.**

The symbols of our own alphabet are nearly the same as those of the Latin: these last were borrowed from a Greek alphabet, and all the different Greek alphabets were borrowed from the Phoenicians. Herodotus (5. 58) says that the art of writing, as well as other arts, was brought into Greece by the Phoenicians who came with Cadmus, while before that time it was not known. It is more than doubtful whether it was known to the Greeks of the Homeric age; and if letters were introduced before the age of the Wise Men, yet they were not in common use.

Phoenician alphabet. Though the Greeks borrowed their alphabet from the Phoenicians, the Phoenicians were not its inventors. These industrious traders handed on to Greece the letters which they themselves in the first instance obtained for commercial purposes from Egypt. This alphabet became the parent of almost every alphabet, properly so-called, upon the earth.

Greek alphabet. The Phoenician alphabet as adopted in Greece is different both in the form and value of the symbols from the alphabet of Phoenicia proper. The most striking contrast lies in the fact that the original alphabet consisted solely of consonants; the vowels were not represented by special signs, but understood to be inherent in the consonants. The Greek alphabet had two main divisions, Eastern and Western. The Eastern division comprised the alphabet of Asia Minor, the Ionian alphabet proper, the earliest of all; the alphabet of the Aegean islands, Thera, Melos, Crete, and others, and the alphabet of the mainland of Greece, viz. Argos, and Corinth with its colony Corcyra, as well as the old Attic. The Western division included the alphabets of the rest of Greece and of the Sicilian and Italian towns, of which the most important were the Chalcidian colonies.

Speaking generally, the Greeks adapted the Phoenician symbols to their own requirements as follows. Four of the Phoenician letters, *Aleph*, *He*, *Ayin*, and *Yod*, were employed to represent the vowel sounds A, E, O, I, while a new symbol

was invented or borrowed elsewhere for ὖ ψιλόν. The Phoenician *Vav* was retained in Greek as the digamma, Ϝ, which is still extant in inscriptions and the sound of which is required by the metre in the Homeric poems, though it is not there represented by a special sign. These letters, along with Σ and the consonants B, Γ, Δ, K, Λ, M, N, Π, P, T, which were borrowed with little change of form, are the letters which, according to tradition, were brought from Phoenicia by Cadmus. Of the other letters the symbol H was used in some Greek dialects, as in Italy, for the sign of the rough breathing. In the Ionic alphabet, as adopted in Attica, the rough breathing had no sign, but H was employed as the sign of a vowel.

The Phoenician Ϙ, *Koppa*, fell into disuse; it survived longest in the alphabet of Chalcis, whence it passed into the Roman alphabet as Q. In classical Greek the sound of Ϙ was not distinguished from the sound of K, but Ϙ survives in old inscriptions. In Ar. *Nub.* 23 we have κοππατίας used of a horse branded with this letter, just as the old σάν or compound σαμπῖ (Hdt. I. 139) is preserved in the word σαμφόρας (Ar. *Eq.* 603; *Nub.* 122, 1298).

The Ionian alphabet came into general use throughout Greek-speaking tribes in the fifth century. A special feature of this alphabet is the use of the symbol H to represent, not the Spiritus Asper, but the long open vowel ē. The same alphabet also distinguished between O and Ω. If H and Ω were simply long varieties of E, O, it is odd that the Greeks should not have distinguished between long and short in the case of other vowels. Before the adoption of the Ionian alphabet in Attica in the archonship of Euclides 403 B.C., E did duty for E and EI, wherever EI did not represent an original diphthong. Apparently then the symbol H was adopted to represent the same sound as the open ē of Italian, and in the same way Ω represented not simply long O but a more open sound.

Ionian alphabet.

Z, earlier I, takes the place of Phoenician *Zayin.*

The letter Ξ, Phoenician *Samekh*, has in Greek a new name, ξῖ. Before the archonship of Euclides this sound was in Attic represented by ΧΣ (*chs*). The Ionic Ξ does not appear in Italy, where the sound was represented by Χ (*cs*, *chs*). In the Ionic alphabet Χ (i.e. χῖ, *ch*) represents the hard guttural aspirate, though it holds the same position as the Roman X (*chs*).

The Greek σίγμα takes the place of Phoenician *Shin.* According to Herodotus (1. 139) the Dorians called σάν what the Ionians called σίγμα. This may point to a difference of sound and σάν may represent the Phoenician sibilant *Tsade.* The compound σαμπῖ is used to denote 900.

New letters. The non-Phoenician letters, introduced into the Attic from the Ionian alphabet in the archonship of Euclides, were Φ, Χ, Ψ, and Ω. The sounds of the Greek aspirates Φ, Θ, Χ were not, in all probability, fricative like the sounds of modern English *f* and *th*; they were momentary sounds followed in each instance by a distinct breathing. Thus Χ represents an English *k'h.* Before the introduction of the symbols Φ and Χ, the sounds were represented by the double letters ΠΗ, ΚΗ.

Roman alphabet. The Roman alphabet was borrowed, in all probability, from that of the Chalcidian and Dorian colonies of Campania and Sicily. To this it owes the form of the letter L, of C for Γ, of X for Ξ, and the retention of the *Koppa* in the form Q. The Roman alphabet consisted originally of twenty-one signs, A, B, C, D, E, F, Z, H, I, K, L, M, N, X, O, P, Q, R, S, T, V. The signs Θ, Φ, Ψ do not appear as letters, but are kept as the symbols of notation for 100, 1000, 50; though in the case of the first two the form of the symbol is assimilated to that of the initial letters of *centum* and *mille.* The digamma keeps its proper place and sign, but it has a fresh value, that of the hard labial spirant, a sound unknown to Greek. The letter Z is found in the

oldest fragments of the language and is common in Oscan and Umbrian, but early disappeared from the written language, as its sound merged in that of S.

The introduction of the letter G for the soft guttural is attributed to Appius Claudius (censor, 312 B.C.), or Sp. Carvilius Ruga (circ. 294 B.C.). Before that time C represented both the hard and soft guttural, and it continues to represent the latter even in classical times in the abbreviations *C.*, *Cn.* for *Gaius*, *Gnaeus*. On inscriptions we find *ecfociont* (*effugiunt*), *pucnandod*, *leciones*, etc.

The sign K also disappeared early, as its sound became identical with that of C, but it is preserved before *a* in *Kaeso*, *Kalendae*, and the abbreviations KK (*castra*), KS (*carus suis*), etc.

Y and Z were borrowed from the Greek alphabet in the time of Cicero to represent the Greek letters *υ*, *ζ*. These had been previously represented by *u* (as in *Æguptus*) and *ss* (medial, e.g. *tarpessita*) or *s* (initial, e.g. *sōna*).

The emperor Claudius attempted to introduce three new signs, ⊢ for the middle sign between *i* and *u*, as in *opt⊢mus*, Ⅎ for the consonantal *u*, and Ↄ for *ps*, *bs*. But these characters disappeared after his death.

The Sanskrit alphabet has no symbols for the Greek and Latin vowels *e* and *o*. The Sanskrit letters which are transcribed by the English *e* and *o* are diphthongs *ai*, *au*. Sanskrit uses *r* and *l* as vowels (written *ṛ*, *ḷ*) as well as consonants. Besides this it employs two series of sounds, *Palatal c* (as in *church*), *j* (as in *judge*), *ch*, *jh* and *Guttural k*, *g*, *kh*, *gh*, and possesses the *Soft Aspirates gh*, *jh*, *dh*, *bh* as well as the *Hard kh*, *ch*, *th*, *ph* which answer to the Greek *χ*, *φ*, *θ*. Further it possesses a sound represented usually in English by *ç*, which was pronounced as a sibilant, but was in origin an alteration of a guttural. The importance of this letter will appear later. **Sanskrit alphabet.**

The alphabet of the original Indo-European language may **The Indo-**

European alphabet.

be constructed out of a comparison of the sounds and letters of its different descendants. It will not represent all the sounds of the derived languages, but only those which are original and not due to the individual development of each language.

Vowels *ī̆, ū̆, ē̆, ō̆, ā̆*; and *ə*, an indeterminate or neutral sound.

Semivowels *i̯* (*y*), *u̯* (*w*), *r, l, m, n*.

When used as vowels or sonants *r, l, m, n* are written *r̥, l̥, m̥, n̥*.

Labials *p, b, ph, bh*.

Dentals *t, d, th, dh*.

Palatal Gutturals written *k̑, g̑, k̑h, g̑h*.

Velar Gutturals written *q, g, qh, gh*.

Spirants *s, z, y* (or *j*), *v*.

The two sets of *Gutturals* have to be distinguished by different symbols. The spirant *j* (*y*) is sounded as in German *ja*. Sanskrit *j* like English, e.g. in *judge*, is a sibilant sound like *zh*.

Vowels of the original language.

We have given the Indo-European alphabet the three vowels *ă, ĕ, ŏ*. In the Sanskrit alphabet *ĕ* and *ŏ* are not distinguished by any special sign from *ă*: for instance, Sanskrit *pad-ás, pắd-as* answers to the Greek *ποδ-ός, πόδ-ες, πόδ-ας*, that is, the Sanskrit termination *-as* answers to the Greek *-ος, -ες*, and *-ας*. But though Sanskrit, as we find it, no longer distinguishes the vowels *e* and *o* from the vowel *a*, there was a period when it did distinguish them. Sanskrit possessed two sets of gutturals; one set, the palatals of the Indo-European alphabet, appear in Sanskrit as the letters ordinarily transliterated *ç, j, jh* (*h*), and remain unchanged, whatever sound follows them. The other set, *k, g, gh*, correspond to the velars of the Indo-European alphabet, and it is their peculiarity to be changed under certain circumstances to *c, j, jh* (*h*) respectively. This change takes place before *i* and *y*, and also in some cases before *a*, but only where the *a* corre-

sponds, not to a European *a* or *o*, but to a European *e*. For instance, we have from the same root *ark-as* with *k* before *a*, but *arc-is* with *c* before *i*; Sanskrit *kataras* with *k* before *a* answers to the Greek πότερος, but from the same root we have Sanskrit *ca* answering to the Greek τε. This shews that though the Sanskrit alphabet only contains one vowel-character, *a*, yet this *a* must once have had under certain circumstances the palatal sound of the vowel *e*, before which the true gutturals *k*, *g*, *gh* became the palatalised gutturals *c*, *j*, *h*. We shall give fuller instances of this change later on.

It is very difficult to give a clear account of the matter, owing to the unfortunate ambiguity of the technical terms employed. The change of Sanskrit *k*, *g*, *gh* to *c*, *j*, *h* before *i*, *y* and an *a* representing an original *e* is due to the fact that *i*, *y*, *e* are palatal sounds, whereas *a* is a guttural vowel, and before them accordingly the gutturals *k*, *g*, *gh* become the palatals *c*, *j*, *h*. But both *k*, *g*, *gh* and *c*, *j*, *h* represent the velars of the original Indo-European alphabet, while the palatals of that alphabet are represented by *ç*, *j*, *h*. Of these *ç* is a sibilant sound, but is recognised by the grammarians as representing an original guttural. *j* and *h*, the soft and aspirated sounds in this series, have no sign to distinguish them from the corresponding sounds in the series *c*, *j*, *h*; but again the grammarians recognise the fact that *j* and *h* have not always the same origin. Again, *h* is the letter which represents an older *jh* or aspirated *j*. It will be seen that the term 'palatal' has a totally different meaning when used of the Sanskrit alphabet to that which it has when used of the Indo-European alphabet. We have not however ventured to introduce any change in the accepted terminology.

Sanskrit therefore does not really support the supposition that the original alphabet only contained one vowel, *a*. Rather we must suppose that it once contained an *e* which has ceased to be distinguished from *a* in sound, and the same character is used to represent both. But if it contained *e*, there is no difficulty in supposing that it also contained *o*, for *o* is a sound which alternates with *e* regularly in roots and terminations—e. g. we have γεν- alternating with γον- in γένος beside γέ-γον-α. Here again we must suppose that what

was originally a distinct sound from *a* and *e* has come to be represented by the same character. And if Sanskrit originally contained all three vowels, there is no difficulty whatever in supposing that they existed in the original Indo-European alphabet.

CHAPTER IV.

THE VOWELS AND SEMIVOWELS.

WE have now to consider the correspondence of the vowel sounds of Greek and Latin. Greek has the short vowels *α*, *ε*, *ι*, *ο*, *υ*, and the long *ᾱ*, *η*, *ῑ*, *ω*, *ῡ*. Of these *α*, *ι* have the value of Italian vowels; *ε*, *ο* were short shut *e*, *o*; *ω* was a long open *ō*; *η* was an open *ē* which has since become *i* in modern Greek; *υ* was originally *u*, but passed through a modified *ü* to modern Greek *i*.

Latin has the five vowels *a*, *e*, *i*, *o*, *u*, long and short.

By a *Diphthong* we understand a combination of two simple vowels, the first of which carries the stronger accent, pronounced in a single effort of the breath. Diphthongs.

Diphthongs have been usually divided into *Proper* and *Improper*. To the first group belong such combinations as *ai*, *ei*, *au*, *ou*, that is, the diphthongs whose second component involves a closer narrowing of the mouth than the first,—while in the second group the conditions are exactly reversed, and the *i* and *u* come first. As *i* and *u* have less fulness of sound, it is more natural for them to come in the subordinate place. Proper and improper diphthongs.

Taking then the proper diphthongs, we may say that a diphthong is composed of a sonant or syllable-forming letter followed by a semivowel. A complete list of diphthongs gives us

ăi āi, *ĕi ēi*, *ŏi ōi*.
ău āu, *ĕu ēu*, *ŏu ōu*.

These have been more faithfully preserved in Greek than in the related languages.

The Latin language, as we find it in classical times, is almost entirely devoid of diphthongs proper. The only one which survives is *au*, and even here we find a strong tendency to substitute a simple sound for the diphthong. In the time of Cicero, for instance, some branches of the Claudian gens called themselves *Clodii*, while others still retained the more archaic spelling of the name.

Indo-European *ă*.

Indo-European *ă* = Greek *ἄ* and Latin *ă*:

e. g. *ἀπ-ό, ăb*; *ἀντί, ante*; *ἀγκών, ancus*; *ἀγρός, ăger*; *ἄνεμος, ănimus*.

In all the foregoing instances in Latin, the short *ă* comes in the originally accented syllable; in the unaccented syllable it always appears as *ĕ* at the end of a word, in close syllables (i. e. before two consonants), and before *r*. Thus we have *inde* beside *ἔνθα*. So forms like *mollitiem* are parallel to Greek forms like *ἀλήθειαν* with short *a*. As *ă* remains in Latin in nom. sing. fem. and neut. plural, it must originally have been long.

Other instances of *ĕ* in Latin for original *ă* are *párticeps* (*cap-io*), *réddere* (*dare*), *péd-e* (instrumental; cf. *ἅμα*, *πέδα*).

In open syllables, i. e. syllables ending in a single consonant, before labials and *l* it becomes *ŭ*, which changes, except before labials, to *ĭ*, as *ín-sulio, in-silio* (*salio*), *occupo* (*cap-io*). Before *l* followed by a consonant it becomes *u*, which does not change to *ĭ* (*ínsulto*).

In other open syllables and before *ng* it becomes *ĭ*, e.g. *contingit* (*tango*), *ádigo* (*ago*), etc.

Indo-European *ā*.

Long Indo-European *ā* appears in Greek as *ᾱ*, but in Attic and Ionic mostly as *η*; in Latin as *ā*.

ἁδύς (for *σϝᾱδύς*), *suavis* (for *suād-ų-is*); *μάτηρ*, *māter*; *φράτηρ*, *frāter*; *κλᾱίς* (for *κλᾱϝίς*), *clāvis*; *μᾶλον*, *mālum*; *φᾱμα*, *fāma*, *fāri*; *ἵ-στᾱ-μι* (for *σί-στᾱ-μι*), *stātor*, *stāre*, *stāmen*.

In the above instances we have written *ᾱ* in the Greek

but the Attic and Ionic dialects represented this $\bar{a}$ by η, e.g. μήτηρ. The same η has also to represent l Indo-European $\bar{e}$, as in θή-σω. In the feminines of declension, where $\bar{a}$ was original, Attic preserves $\bar{a}$ υ, ρ, while Ionic does not even do this. Attic κόρη, for κόρϝη, δέρϝη, and are no exceptions to the rule.

Indo-European *ai.*

European *a͡i* = Greek αι, Latin *ai*, *ae*:

e.g. αἴθω, *aedes*; αἰών, *aevum*; αἶσα, *aequus*; λαιός, *laevus*.

The original diphthong *ai* is frequent in the oldest Latin inscriptions and survives even in those of the time of the Empire, both in the body of a word and also in the suffixes of cases. In the inscriptions on the tombs of the Scipios, e.g. (B.C. 250–150 circ.), we find *aidilis*, *aide* (*aedem*), *Gnaivod* (*Gnaeo*), *quairatis*; but side by side with the last form in the same inscription we find *aetate*. That this form *ai* however was originally dissyllabic is proved by its scansion in the older poets (e.g. *magnái rei públicai grátia* Plaut. Mil. 103; a scansion which became a traditional archaism in poetry, e.g. Aen. 3. 354, 6. 747). The diphthong passed into the monophthong about B.C. 200–150, and was written *ae*; but the spelling *ai* long survived, especially in the legal style, though it cannot be supposed to represent in the ordinary language any difference in pronunciation. In originally unaccented syllables and in composition *ae* becomes $\bar{\imath}$, e.g. *mensais* becomes *mensis*, and *caedo incīdo*.

Indo-European *au.*

Indo-European *a͡u* = Greek αυ, Latin *au*:

e.g. παῦ-ρο-s, *pau-cu-s*; καυ-λό-s, *caulis*; γαῦ-ρο-s, *gaudere*.

The Latin diphthong *au* may either represent an original diphthong or be a secondary product. In this latter case it is the regular representative of an original *ou*, as for example:

ὄϝις, *avilla*; ὀϝιωνός, *avis*, *autumo*; κόϝ-ιλος, *cavus*; λούω, *lavo*; οὖς, *aur-is*.

But *au* alternates with $\bar{o}$ and $\bar{u}$ in a way which at present

has not been explained. Thus *cōdex* is also written *caudex*, and *cautes cōtes*, while *frustra* stands by the side of *fraus*. In composition *au* regularly becomes *ū* (*claudo*, *conclūdo*), yet we find *explōdo*, and as a quite isolated instance *oboedio*.

Indo-European *ĕ*.

Indo-European *ĕ* = Greek ε, Latin *ĕ*.

ἔστι, *est*; γένυς, *gĕna*; τέ. *quĕ*; γένε(σ)ος, *gĕnĕris*; φέρω, *fĕro*; δέκα, *dĕcem*; ἕδ-ρα, *sella* (for *sĕd-la*); ἀ-στέρα, *stella* (for *stĕr*(*u*)*la*); ἑπτά, *septem*; ἕξ, *sex*.

ĕ remains unchanged in Latin before *r*, at the end of a word, and before double consonants. But in an originally unaccented syllable before a single consonant it passes to *ĭ* (*cólligo—lego*, *ágimini*—ἀγόμενοι), and also before *-gn-* and before nasals followed by gutturals.

Indo-European *ē*.

Indo-European *ē* appears in Greek as η, in Latin as *ē*.

ἡμι-, *sēmi-*; νῆ-μα, *nēmen*; ἵ-η-μι, ἧ-μα, *sēmen*; μην-ός (= μην-σος), *men-sis*; τι-θή-νη, θῆ-λυς, *fē-mina*, *fē-lare*; εἴης (= ἐσ-ιης), *siēs* (old Latin for *sis*); πλή-ρης, πίμ-πλη-μι, *plē-nus*; ἐδ-ηδ-ώς, *ēd-imus*.

Indo-European *ei̯*.

Indo-European *ei̯* = Greek ει, Latin *ei*, which in early times becomes *ī*.

δείκνυμι, *deico*, *dīco*; κεῖμαι, *ceivis*, *cīvis*; εἶμι, *adeitur*, *adītur*; πείθειν, *fīdo*.

The sound of the *Secondary* ει, which arose from contraction of εε and other causes, was originally a different sound, viz. a long close *ē*, less open than η (p. 66).

The Latin diphthong *ei* seems to have been pronounced with a sound midway between *ē* and *ī*, and with one or other of these sounds it early became identified. Only in the earliest inscriptions is it to be taken as a true diphthong; elsewhere it is merely a graphic representation of *ē* or *ī*. Practically even in the very earliest inscriptions we find *ī* and *ei* side by side. So great is the confusion between the three sounds *ei*, *ī*, *ē*, or rather so near did they approach one another in pronunciation, that we find *ei* used to represent *ē*, *ī*, even in cases where there is no trace of an original diphthong

(e.g. *decreivit*, *audeire*). The confusion even extends to the short vowels, so that we find *impeirium*, *heicce*; and in many instances we get the same form indifferently with *ē*, *ī*, *ei*, e.g. *heri*, *here*, *herei*. In *meio*, *peior* the diphthong is the result of a contraction (*meihio*, *peiior*).

Indo-European *eu* = Greek ευ, Latin *ou*, which becomes *ū* and sometimes *ō*. An original diphthong *eu* is only found in the *Leucesie* of the Carmen Saliare in Latin. Indo-European *eu*.

λευκός, Old Latin *loumen*, *Loucina*, Classical *lūmen*, *Lūcina*; εὕω, *ūro*, *ūr-na*; ἐ-ρεύθ-ω, *rūfus*, *rōbigo*.

An original diphthong *eu* regularly becomes in Latin *ou*, which before a consonant passes into *ū*.

ζεύγεα, *jūgera*; ἐν-νέϝα, *novem*; νέϝος, *novus*; εὐ-άζω, *ovare*; Ζεύς (for Διευς), *Jov-is*.

Sometimes we find this *ū* alternating with *ō*, as in *rōbigo* (ἐρεύθω), *mōtare* (not different in origin from *mūtare*).

In unaccented syllables before a vowel we get *ŭ*, e.g. in *denuo* (*dē novo*), *ábnuo* (νεύω), *mónui* (*mone-ui*). This being so, *ruo* (ῥέω), *pluo* (πλέω), etc. must owe their vowel to the analogy of the compounded forms (*córruo*, etc.), otherwise we should have **rovo*, **plovo* (cf. the old Latin *perplovere*).

The combination *eu* only occurs in Latin in *heu*, *eheu*, *neu*, *ceu*, *seu*, *neuter*, etc., and in *brevis*, *levis*. Of these *neu*, *ceu*, *seu*, *neuter* are compounds (for *nĕ-ve*, etc.).

Indo-European *ŏ* = Greek ο, Latin *ŏ*. Indo-European *ŏ*.

ὄζειν (for ὀδ-ιειν), ὀδ-μή, *ŏdor*; ὄρ-νυμι, *ŏrior*; ὄλ-λυμι, *ab-ŏl-ere*; ὀκτώ, *octō*; δόμος, *dŏmus*; κόραξ, *corvus*; βορά, *vŏrare*; κολωνός, *collis*; στόνος, *tŏnare*; πόσις, πότ-νια, *pŏtis*.

Unaccented *ŏ* in Latin regularly becomes *ŭ* (e.g. *fili-us*), except after *u* and *u*, when it is not written *u* till about the Christian era. At the end of a word it becomes *-ĕ*, e.g. *sequerĕ* = ἕπε(σ)ο. In accented syllables before two consonants, especially if the first be a nasal, it often becomes *u* (*uncus*—ὄγκος, *umbilicus*—ὀμφαλός). *ŏ* in Latin.

Indo-European ō.

Indo-European long *ō* = Greek ω, Latin *ō*.

δῶρον, *dōnum*; **νῶϊ**, *nōs*; **γι-γνώ-σκω**, *(g)nōsco*; **ὠκ-ύς**, *ōc-ior*; **κρώζω**, *crōcio*; **ᾠόν**, *ōvum*; **πῶ-μα**, *pō-culum*, *pō-tus*; **ῥώ-ννυμι**, *rō-bur*.

ō sometimes appears in isolated cases in Latin as *ū*; cf. *da-tūr-us* beside *datōr*, *fūr* beside φώρ, *hūc* for *hōd-ce*. This change is unexplained.

Indo-European oi̯.

Indo-European *oi̯* = Greek οι.

e. g. **οἰνή**, **πέ-ποιθ-α**, **λοιπό-ς**.

The diphthong *oi* existed in early Latin, and is found in inscriptions in words like *oinvorsei* (*universi*). In later Latin it passed into *oe* and then generally into *ū*, and so we get successively the forms *oenus* and *unus*. But in some words the change to *ū* never took place (e. g. *poena*); in other cases the forms with *ū* exist side by side with those with *oe* (*poenire* and *punire*, *Punicus* and *Poenus*).

In one or two cases an original *oi* seems to be represented in Latin by *ī*, e. g. *fidus* (cf. πέ-ποιθ-α), *vicus* (ϝοῖκος), *vinum* (ϝοῖνος). So in final unaccented syllables *is-tī* answers to τοί and *equīs* to ἵπποις.

Indo-European ou̯.

Indo-European *ou̯* = Greek ου.

e. g. **βοῦ-ς**, **ἀκού-ω**, **λού-ω**.

The Secondary ου, which arose from contraction, etc. (p. 66), was, like Secondary ει, originally distinct from the true diphthong and a narrower and less open sound than ω.

The diphthong *ou* is never original in Latin. It is true that we find *bovis* corresponding to βοός and *ovis* to ὄϝις; but *bovis* may rather come from a genitive *gu̯os*, which would seem to be the correct form (see p. 54), and in any case the *b* in Latin is irregular as representing a Greek β coming from a velar guttural (p. 54). *ovis* again cannot represent ὄις, the root of which perhaps rather appears in *av-ena*, *av-illa*.

Indo-European ĭ.

Indo-European *ĭ* = Greek ĭ, Latin *ĭ*.

δίκη, *in-dĭc-are*; **ἔ-πιθ-ον**, *fĭd-es*; **ϝιδ-εῖν**, **ϝίδ-μις**, **ϝίσ-τωρ**, *vĭd-eo*; **ἔ-ϝικ-τον**, *vĭc-em*; **ἠ-ϝίθεϝ-ος**, *vĭdu-us*; **μιν-ύθειν**, *mĭn-uere*.

Indo-European *ī* = Greek ῑ, Latin *ī*. Indo-European *ī*.

ϝῖς, vīs; *εἶμεν* (*ἴσ-ῑμεν*), *s-īmus*; *θλῑβω, af-flīg-ere*; *θιγγάνω* (√ *dhīg*), *fīgo*; *ϝῑός* (for *ϝισος*), *vīrus*; *ϝῑτέα, vītex, vītis, vīmen.*

Indo-European *ŭ* = Greek ῠ, Latin *ŭ*. Indo-European *ŭ*.

ζῠγόν, jŭgum; *φῠγή, fŭga*; *μυῖα* (for *μῠσ-ια*), *mŭs-ca*; *τῠμβος, tŭmere*; *ῠπό, sŭb*; *δῠω, δῠο, dŭo*; *λῠχνος, lŭc-erna*; *ἐ-ρῠθρ-ός, rŭber*; *κλῠτός, inclŭtus.*

Indo-European *ū* = Greek ῡ, Latin *ū*. Indo-European *ū*.

θῡμός, fūmus; *πῦρ, pūrus*; *μῦς, mūs*; *νῦν, nūn-c*; *σκῦτος, scūtum*; *ῦς, σῦς, sūs.*

As consonants *i̯* (*y*) and *u̯* (*w*) are treated p. 42.

The combination *υι* stands apart from the diphthongs proper as both components are semivowels. As a double sound they appear in *συί, δρυί*, as a single sound in the Homeric *νέκυι, πληθυῖ*. Other instances are *μυῖα, πεπληγυῖα*, etc. Before a consonant *υι* was not allowed, as we see from the Homeric optatives *ἐκδῦ-μεν, δαινῦ-το* (=*ἐκδυι-μεν, δαινυι-το*).

A vowel is sometimes developed, both in Greek and Latin, between two consonants. But this vowel differs from the vowels proper *a, e, o* in the fact that it has no definite character of its own. In the Indo-European alphabet we have given this indeterminate sound the symbol *ə*. In Sanskrit it appears as *i*. As instances of the indeterminate vowel we give the following :— The Indeterminate Vowel.

	I.-E.	Sk.	Greek.	Latin.
√*sthā* (stand)	*sth-ə-tós*	*sth-i-tás*	*στ-ᾰ-τός*	st-ă-tus.
√*dō*	*d-ə-tós*	*á-d-i-ta*	*δ-ο-τός*	d-ă-tus.
√*sē*	*s-ə-tos*		*ἑ-τός*	s-ă-tus.
	p-ə-tér	*p-i-tár*	*π-ᾰ-τήρ*	p-ă-ter.

This same neutral vowel appears inserted between the root and the termination, but it is difficult to be certain whether it is to be looked upon as part of the root or not.

	Sanskrit.	Greek.	Latin.
Thus Sk.	*duh-i-tár*	*θυγ-ᾰ-τηρ.*	
	dam-i-tá	*ἀ-δάμ-ᾰ-τος*	dom-ĭ-tus.

Sanskrit.	Greek.	Latin.
vam-i-tá	ἐμ-ε-τός	vom-ĭ-tus.
jan-i-tár	γεν-ε-τήρ	gen-ĭ-tor.

The instances shew that in Greek the indeterminate vowel is represented by either α, ε or ο, and it is not easy to lay down the laws under which it appears, now in one form, now in another. In Latin we may say that roughly speaking the indeterminate vowel becomes *u* before *l* and *m*, *e* before *r*, *i* before *n*; while elsewhere in an accented syllable it is represented by *a*, in an unaccented by *i*. Most frequently it is inserted between the final mute of a stem and the initial liquid of the termination to facilitate pronunciation, though in many cases there are bye-forms without the inserted vowel which are to be considered the older.

Thus with the Indo-European suffix *-lo-* we have

saec-u-lum beside *saec-lum—vinc-u-lum* beside *vinc-lum—pop-u-lus* beside *Popl-icola*, old Latin *poploe—Herc-u-les* beside *me-hercl-e*.

In early Latin the inserted vowel in this class of words is more frequent than in classical Latin. Plautus, e.g. uses *discip-u-lina*, *nomenc-u-lator* for the later *disciplina*, *nomenclator*.

Again, we can compare

um-e-rus with Gk. ὦμος (ὀμ-σος)—*inf-e-rus* with *inf-ra—vol-u-p*, *vol-upe* with Gk. ϝέλπ-ομαι, ἐ-ϝολπ-α—*col-u-mna*, *col-u-men* with *culmen—s-u-mus* with Sk. *smás*, Gk. ἐ-σμέν.

The insertion of such a vowel is also common in the earlier transliterations of Greek words, e.g. *drac-u-ma* (δραχ-μή), *Tec-u-messa* (Τέκμησσα), *Aesc-u-lapius* (Ἀσκ-ληπιός), *m-i-na* μνᾶ). Later however a more accurate method of representation prevailed, except where the result would have been a combination of letters quite foreign to Latin, as e.g. μνᾶ.

Balancing power of l. A special feature of Latin is the tendency of unaccented vowels separated by *l* to be assimilated to one another. Thus in *calamitas* the first *a* is radical, but in the compound

of the same root, *incolumis*, which was originally accented on the first syllable (p. 86), the second *a* passes into *u* before the *m*, and the first is assimilated to it and becomes *o*. Similarly an unaccented *a* before a labial becomes *u* (*cápio*, *aúcupo*), but yet we find *álapa*, not **álupa*. The law may be largely illustrated from the substantives and adjectives in *-lis* as compared with those in *-lus*. In the first case the vowel of the penultimate syllable is *u*, in the second *i*. In Greek for example we have adjectives of the type εὐτράπελος, εἴκελος, etc.; but in Latin we get only on the one side *similis* (cf. ὁμαλός), *humilis* (χθαμαλός), on the other *bibulus*, *pendulus*, *tremulus*.

Unaccented vowels.

Hitherto we have seen that in ordinary cases Greek α, ε, ο, ι, υ correspond to the same vowels in Latin. In some cases however special laws intervene to prevent the correspondence being complete, as when a Greek ου becomes in Latin *au* or ελ becomes *ol*. In unaccented syllables in Latin the vowels tended to lose their proper sound and approximate to that of the indeterminate vowel, and are then at the mercy of the surrounding consonants, and are treated in the same way as an indeterminate vowel inherited from the original language. It is noticeable that in Greek vowels are not in any way affected by the presence or absence of the accent.

Exceptions to the regular representation of vowels in unaccented syllables are due to various causes. In some cases the archaic pronunciation and spelling is preserved, as in *quaesumus*, *volumus*, where *u* represents the Greek ο, which ordinarily becomes in Latin *i*. *Sumus*, if an enclitic, ought to become *sĭmus*, and this is actually the way it was spelt by Augustus. But *u* tends to be maintained in such cases in initial syllables—cf. *lŭbet* beside *lĭbet*. Another important cause is 're-composition.' The past participle of *circumdo* ought to be *circumditus* like *redditus*, but after the law that weakened unaccented vowels had ceased to operate, this and

similar words were compounded over again, and the vowel of the second element was kept in *circumdatus*.

Greek *o* in Latin, *u*.

The *o* of Greek nom. sing. of masc. stems in *-o* and neuters in *-os* answers to Latin *ŭ*, except where it was preceded by *u*: e.g. *γένος* : *genus*, *-vorus* : *-βόρος*, but *equos* : *ἵππος*. And generally we may say that an unaccented *ŏ* becomes in Latin *ŭ*, as an unaccented *ă* becomes *ĕ* (*ἔνθᾰ*, *indĕ*), and an unaccented *ĕ* becomes *ĭ*.

A Greek *o* in many cases answers to Latin *ŭ*, especially before a nasal followed by a guttural,

ὄγκος, *uncus*; *ὄν-υ-ξ*, *unguis*; *-cunque*, *quondam*; *nuncupo* for *nom(i)cupo*; *δόν-α-ξ*, *junc-us*.

Before a guttural in

luxus, *λοξός*.

Before a labial in

umerus, *ὦμος*; *umbo*, *ὀμφαλός*; *numerus*, *νόμος*.

With long vowels we have

fūr, *φώρ*; *ulna*, *ὠλένη*.

e becomes *i*.

An original *e* becomes in Latin *i* before a combination of gutturals and nasals—

lig-num, *lego*; *tig-num*, *tego*; *sig-num*, *in-sec-e*; *dig-nus*, *dec-et*; *quin-que* for *penque*, *πέντε*; *ig-nis*, Sk. *agni*; *beni-gnus*, *mali-gnus*, *bene*, *male*.

In *abi-e-gnus* the *e* is due to the preceding vowel being *i*, as we see from *abi-et-is* compared with *mil-it-is*.

There are very few cases of *-egn-*, *-egm-* in Latin, and in most of them the vowel is long: *sēgnis*, *rēgnum*, *tēgmen*, *obtēgmina* (cf. *tēctus*) have the apex over the *e* in inscriptions; and perhaps *segmen* may also have the first vowel long.

Greek vowels.

The Greek vowels are more regular than the Latin in keeping to the sounds of the original speech. There are however differences of representation in the various dialects, especially in the neighbourhood of a liquid or nasal. For instance, in Herodotus we find *τράπουσι* for Attic *τρέπουσι*, and Attic *Ἄρτεμις* is in Doric *Ἄρταμις*.

The appearance of *ι* in place of original *ĕ* in *ἵππος*, Lat.

equus, Sk. *açvas* is unexplained. Before vowels ε passes into ι in some of the non-Ionic dialects, as in Boeotian θιός, Laconian σιός, answering to Attic θεός, and in Boeotian ἰών beside Attic ἐγώ.

Aeolic υ.

The grammarians regarded a change to υ as especially a mark of the Aeolic dialect. Thus Epic ἄμυδις (cf. ἅμα), ἄλλυδις (ἀλλο-), ἐπασσύτεροι, πύματος, αἰσυμνήτης (αἰσα-) were accounted as Aeolisms.

Other instances of the appearance of υ in close connexion with a liquid are διαπρύσιος, πρύτανις, πρύμνα, πρυλέες (πρό), ὑπόβρυχα (βροχ-).

The Semivowels.

The semivowels of the Indo-European alphabet are *i̯*, *u̯*, *r*, *l*, *m*, *n*.

The characteristic of a semivowel is that under certain circumstances it plays the part of a vowel, i. e. it is capable of forming a syllable by itself either with or without accompanying consonants, while in other cases it is a consonant, that is, it possesses no proper sound of its own but combines with a vowel proper to form a syllable.

For instance in ἔπιθον the ι is an independent syllable-forming sound, but in ἔπειθον it is a dependent sound ancillary to the proper vowel of the syllable, namely ε. As it is with ι in the stems πειθ-, πιθ-, so it is with υ in the stems φευγ-, φυγ-.

When these semivowels come between two consonants they are independent vowel sounds: when they follow immediately on a vowel they become merged with that vowel into a diphthong: when they come between a consonant and a vowel they are fully consonantal, and are then written by us *i̯*, *u̯*.

Indo-European *i̯*.

The Indo-European consonantal *i̯*, answering in sound to English *y*, and also called from the Hebrew name the *yod*-sound, appears at the beginning of a word, in Greek as the rough breathing, in Latin as *j*, and in Sanskrit as *y*.

Sanskrit.	Greek.	Latin.
yákṛt	ἧπαρ	jecur.
yás	ὅς.	
yuṣma-	ὑμεῖς.	

It seems that a distinction must be made between this i̯ or *y* sound and the spirant *y* or *j*. The Indo-European languages seems to have had both sounds. In Greek an original *y* at the beginning of a word is represented by ζ, while in Sanskrit and Latin it is represented by the same sound as i̯.

Sanskrit.	Greek.	Latin.	English.
yugám	ζυγόν	jugum	*yoke.*

The Greek ἅγ-ιος has the same root as Sk. √*yaj* (offer), and points to an original initial i̯, but Greek ζέω answers to Sk. √*yas* (be heated), Lat. *jus*, and points back to original *y*.

In Greek Ζεύς the Ζ has come from an original *di̯*-, as we see from Sk. *dyāús*, Lat. *Iov-is*, *Dies-piter*.

Indo-European i̯ between two vowels fell out in Greek after all vowels except υ, e. g.: δϝει̯ος = δέος, δεδϝοι̯α = δείδω, τιμαι̯ω = τιμάω, φιλει̯ω = φιλέω, δηλοι̯ω = δηλόω.

Of i̯ after consonants we speak elsewhere (p. 71).

The consonantal i̯ in Latin at the beginning of a word appears, as we have seen, as *j*.

Medially between vowels it disappears and contraction of the vowels then sometimes ensues. Thus *flei̯o* becomes *fleo*, *finii̯o* becomes *finio*, but *stai̯o* becomes *sto*.

After consonants it is maintained, but the preceding consonant itself is generally lost, e. g. *Jovis*, Gk. Ζεύς, both going back to a stem *di̯eu̯*-, *aio* from *āhi̯o*, Gk. ἦχ-ανεν. Where the consonant did not disappear, the i̯ apparently remained consonantal, and thus we have *ari̯ete*, *abi̯ete* in the poets. The termination *-ius* in *patrius* stands for an earlier *-ii̯os*: cf. Sk. *pitr-ⁱyas*.

Indo-European u̯. The consonantal u̯ seems to be represented in Greek by the Digamma, which is a *Spirant* sound answering to Latin *v*, English *w*. We can distinguish i̯ from *y* (*j*) in Greek because initial i̯ became the rough breathing, while initial *y* became ζ.

But we cannot distinguish between u̯ and ϝ in the same way. In the following instances a consonantal u̯ or digamma appears as the second member of a diphthong.

ἰαχή is for ϝι-ϝαχη, from which we have the adjective α-ὐία-χος for ἀ-ϝιϝαχος.

The simple verb ἐρύω is for ϝερύω, from which we have the compound αὐέρυσαν for ἀ-ϝερυσαν.

ἀπό-ερση is for ἀπό-ϝερση (cf. Lat. *ver-rere*), the participle of which tense is ἀπούρας for ἀπο-ϝρας.

ἀ-έξω beside Lat. *veg-eo* must stand for ἀ-ϝεξω; consequently αὐξάνω stands for ἀ-ϝξάνω.

The consonantal u̯ in Latin at the beginning of a word appears as *v*, e. g. *ver-bum*, Gk. ϝέρ-ομαι. Before a consonant it disappears, as in *lora* for *u̯lora*, Gk. ε-ὔληρα.

Medially between vowels it is normally kept, as in *novem*, Gk. ἐν-νέϝα, *ovis*, *Iovis*, etc. But even here it often disappears in verbal inflexion. Ennius wrote *fūvimus* for the later *fŭimus*, and *amavisse* has a by-form *amasse*.

After consonants u̯ is sometimes consonantal, sometimes a vowel; and so the poets are able to use *silvae* and *siluae*, *soluit* and *solvit*, *tenuis* and *tenu̯ia* indifferently. In the combination *du̯*, *d* disappears, as in the case of *di̯* above, and so we have *suavis* for *suadu̯is*, Gk. ἡδύς.

Liquids and Nasals.

The Semivowels *r*, *l*, *m* and *n* stand exactly on the same footing as i̯ and u̯. What happens in the one case, happens also in the other.

As in the strong aorist stem of πείθ-ω the ε is expelled and we get ἔ-πιθ-ον, so from πέλ-ομαι we get the aorist ἐ-πλ-όμην.

From δέρκ-ομαι and κλέπ-τω we ought then to get by the same expulsion of ε the aorists ἐ-δρκ-ον and ἐ-κλπ-ην (pass.). Now in Sanskrit we do find a form *á-dṛç-am* (which answers to ἐ-δρκ-ον), where *ṛ* has the value of a vowel, that is, forms by itself a syllable. Similarly from the root *par* we get the

word *pí-pṛ-más*, where *ṛ* represents the liquid *r* with the value of a vowel. To these liquids *r* and *l* when used as vowels we give the name of *Liquid Sonants*. They existed not only in Sanskrit but also in the original Indo-European language, and traces of them can be found in all branches of the Indo-European family.

But while in Sanskrit the vowel-sound of the liquid is not written, in the other languages it is written. This vowel-sound of the Liquids when used as vowels did not find the same equivalent in the alphabets of the different nations: each represented it by that vowel, or combination of vowels, which it seemed to them most to resemble. When, therefore, we find in Greek *καρδί-α*, in Latin *cordi-s*, in Gothic *hairto*, we must not conclude that a Greek *α* answers to a Latin *o* and Gothic *ai*, but that the vowels in the three languages differ because the vowel-sound of the liquid sonant, not finding its exact equivalent in any alphabet, was differently represented in each.

The Liquid Sonants. The Liquid Sonants (r̥, l̥) were represented in Greek and Latin as follows:

r̥ = Gk. *αρ, ρα*, Lat. *or*
l̥ = Gk. *αλ, λα*, Lat. *ol, ul*.

We cannot tell so clearly from a single language as from a comparison of more than one whether any of these sounds in Greek and Latin represents a Liquid Sonant. Thus in the case of *ἄλλος* there is no other word in Greek which would help us to determine whether *αλ* stands for original l̥. But the Latin *al-ius* shows that *αλ* is an original sound inherited by both languages, and that we might write the original I.-E. *al-i̯os*. The Greek *καρδί-α* on the other hand, as compared with the Latin *cordi-s*, shows by the disagreement of the vowels that both correspond to an original *kr̥di*.

Before Mutes. I. The Liquid Sonants appear before Mutes and Nasals. We give parallel forms in which an *e* appears in the root. When the *e* is expelled the Liquid becomes sonant.

δέρκ-ομαι	ἐ-δr̥κ-ον	ἔδρακον.
πέρθ-ω	ἐ-πr̥θ-ον	ἔπραθον.
τρέφ-ω	ἐ-τr̥φ-ον	ἔτραφον.
σπείρω	ἐ-σπr̥-ται	ἔσπαρται.
φθείρω	ἐ-φθr̥-μαι	ἔφθαρμαι.

Other instances are

μείρομαι, εἵ-μαρ-ται—κείρω, κέ-καρ-μαι—στέλλω, ἔσ-ταλ-μαι—στρέφ-ω, ἔ-στραμ-μαι—τρέφ-ω, τέ-θραμ-μαι—Θερ-σίτης, θρα-σύς, θαρ-σύνω—κρέσ-σων Ion., κρα-τύς, κάρ-τα—δέρκ-ομαι, ὑπό-δρα (for ὑπο-δr̥κ)—πατέρ-ες, πατρά-σι (for πατr̥-σι).

In comparison with Latin we find

I.-E.	Greek.	Latin.
r̥ksó-	ἄρκ-τος	ur-sus (= orc-sus).
kr̥d-i	καρδ-ία	cordi-s (gen.).
pr̥só-	πρά-σον	porrum (= por-sum).
spr̥tó-	σπάρ-τον	spor-tula.

II. At the end of a word we find the Liquid Sonant in

I.-E. *i̯ekr̥t-* ἧπαρ jecur.

III. Before *i̯* there takes place in Greek Epenthesis with *r̥*, as for instance ἀσπr̥i̯ω becomes ἀσπαίρω: with *l̥* there is assimilation, as for instance σκl̥i̯ω becomes σκάλλω, and βl̥i̯ω, βάλλω. (Before *i̯*.)

IV. Sometimes the liquids *r* and *l* become sonant even before a vowel, but in such cases they are followed by the consonants *r* and *l*, when we may write them *r̥r*, *l̥l*. We may illustrate this from the other semi-vowels *i̯* and *u̯* where the same rule holds good. If to the stem *bhru-* in Sk. *bhrū-s*, Gk. ὀ-φρύ-ς, we add the genitive termination Sk. *-as*, Gk. -ος, we shall get a hiatus, which being inadmissible (p. 65) is bridged over by the doubling of the *u*-sound and we obtain *bhruv-as*, ὀ-φρύϝ-ος. Similarly from the root στελ- in στέλλω the strong aor. pass. is ἐστάλην, where αλ- represented the doubling of the liquid sound to *l̥l*, though the Greek method of representing *l̥l* is not different from that of representing *l̥*. (Before vowels.)

Again

βαρ-ύς represents I.-E. *gr̥r-ú-s*.
τάλ-ας represents I.-E. √*tl̥l-*

Long Sonants.

V. The Liquid Sonant sometimes appears as long, in which case I.-E. *r̥̄*, *l̥̄* become in Greek ρω, λω, and in Latin *rā*, *lā*, as in

I.-E. √*str̥̄*	στρω-τό-ς	strā-tu-s.
√*gr̥̄*	βρω-τό-ς	grā-nu-m.

The Nasal Sonants.

So much then for the *Liquids* as Vowels. To prove that the *Nasals m* and *n* could be used as vowels is more difficult. We do not find in Sanskrit *ṃ*, *ṇ* as we find *ṛ*, *ḷ*. But let us compare the following:

Sanskrit.	Greek.	Latin.
ta-tá	τα-τός	-ten-tus.
ga-tá	βα-τός	-ven-tus.
na-ma	ὄ-νο-μα	no-men.
sapt-á	ἑπτ-ά	sept-em.

Evidently that which happened in the case of the Liquids has also happened here, only that in Sanskrit and Greek the nasal has disappeared, leaving no trace of itself whatever, and being represented solely by a vowel-sound. Thus τατός, *tatá*, must go back to an original *tn̥tó*, where *n̥* represents the nasal sonant. In Latin, on the other hand, the sound of nasal sonant is represented by a vowel and consonant.

The *Nasal Sonants n̥*, *m̥* are represented in Greek by α, αν, αμ, and in Latin by *en*, *em*. There is no symbol in Sanskrit for the use of the Nasals as vowels.

Before Mutes.

I. We find the Nasal Sonants in syllables which were unaccented in the original Indo-European language, before mutes, nasals, or at the end of a word, when they appear simply as *m̥*, *n̥*, in Greek as α, and in Latin as *em*, *en*.

I.-E. *k̂n̥tó-m*	ἑ-κατό-ν	centu-m.
gm̥-tó-	βατό-ς	-ventu-s.
sm̥-	ἁ-πλόο-ς	sim-plex.
dék̂m̥	δέκα	decem.
mn̥-tó-	αὐτό-ματο-ς	com-mentu-s.
me-mn̥-tōd	με-μά-τω	me-men-tō.

Other instances are

παχύ-ς (πn̥χ-υ-), pingui-s (for pengui-s); ἐ-λαχύ-ς (ἐ-λn̥χ-υ-), levi-s (ln̥huis); βραχύ-ς (βρn̥χ-υ-), brevi-s (brn̥huis); δασύ-ς (δn̥σ-υ-), densu-s; ὄνομα (ὀ-νομn̥), nomen; πόδα (ποδ-m̥), pedem.

In Greek verb-forms we sometimes find a nasal sonant. Thus in *πένθ-ος* we have a full √ *πενθ*, but in *ἔ-παθ-ον* a reduced √*πn̥θ*: in *χείσομαι* for *χενδ-σομαι* a full √*χενδ*, but in *ἔ-χαδ-ον* a reduced √*χn̥δ*: in *λέ-λογχ-α* a full √ *λογχ*, but in *ἔ-λαχ-ον* a reduced √ *λn̥χ*.

Other instances are

τέ-τον-α, τε-τn̥-ται, τέ-τα-ται—√*κτεν, ἐ-κτn̥-μεν, ἔ-κτα-μεν*—*φόν-ος, πε-φn̥-ται, πέ-φα-ται.*

II. The nasal sonant sometimes appears before *i̯*, when epenthesis ensues and *m* is changed into *n* as in **Before *i̯*.**

I.-E. *gm̥-i̯o* *βαίνω* (*βm̥-i̯ō*) ven-io.

Instances in Greek with original *n̥* are

τεκταίνω, σπερμαίνω.

III. Like *l* and *r*, so too *m* and *n* sometimes appear before a vowel as *m̥m*, *n̥n*, Gk. *αμ*, *αν*, Lat. *em*, *en*. **Before vowels.**

I.-E. *tn̥n-ú-*, *ταν-ύ-γλωσσος*, ten-u-i-s.

Other instances are

ἐ-τm̥mov, ἔ-ταμ-ον — *χm̥ma-ι, χαμα-ί* — *λιμπn̥nω, λιμπάν-ω* — *ἅμ-α* (*sm̥m-*).

CHAPTER V.

CONSONANTS.

We pass on after the Semivowels to the *Consonants*, and of these take first the *Mutes* or *Explosive* Consonants, in the pronunciation of which there is a check in the passage of the breath through the mouth.

Velar and Palatal Gutturals.

The *Gutturals* are the mutes whose place of articulation is furthest back in the breath passage. Two kinds of gutturals may be distinguished, those in which the tongue and the soft palate (*velum*) are the organs of articulation, i. e. the *Velar Gutturals*, and those in which the tongue and the hard palate are the organs of articulation, i. e. the *Palatal Gutturals* or *Palatals*. These two sets of sounds are distinct in origin and treatment.

The difference in mode of articulation may be illustrated by the English '*kin*' and '*cool*,' in the former of which the guttural is pronounced nearer the front of the mouth than in the latter.

Other Mutes.

Besides *Gutturals* we have, as we have seen (p. 19), the *Dental* and the *Labial* Mutes. All these are also distinguished into *Tenues* (Hard) and *Mediae* (Soft), which can be aspirated as well as unaspirated, and thus we get the *Hard Aspirates* or *Aspirated Tenues kh*, *th*, *ph*, and the *Soft Aspirates* or *Aspirated Mediae gh*, *dh*, *bh*. It is not often that languages have both sets of Aspirated Mutes in full.

The following table shews the notation adopted for the different Mutes or explosives in this book :—

	Velar.	Palatal.	Dental.	Labial.
Tenues	*q*	*k̑*	*t*	*p.*
Mediae	*g*	*g̑*	*d*	*b.*
Tenues Asp.	*qh*	*k̑h*	*th*	*ph.*
Mediae Asp.	*gh*	*g̑h*	*dh*	*bh.*

Beginning with the Gutturals, we find, as already said, that there are two kinds, *Velar* and *Palatal.*

Velar Gutturals.

(1) The Velar Gutturals are differently represented in different languages, and take different forms according to the nature of the following sound.

In Sanskrit before *a* proper, *u*, diphthongs and liquids, the Velars are represented by *k*, *g*, *gh*, but before *i* or before an *a* which answers to an European *e*, there is a change of *k*, *g*, *gh* into the palatal sounds *c* (Engl. *ch*), *j*, *h* (for *jh*), corresponding to the palatal nature of the succeeding vowel sound.

Labialised.

In Greek and Latin the Velars appear either with a labial *u̯* (*w*) sound in them, as in the Latin *quis*, or without it. This labial sound is not to be regarded as tacked on or 'parasitic,' but as part of the sound of the Velar guttural itself. It is less perceptible than the full sound of the spirant *u̯*. Wherever this labial sound is to be found in the Velars, we find them assuming different forms according to the nature of the following sound. The labial sound does not appear in Sanskrit Velars.

Without the labial sound the velars *q*, *g*, *gh* appear in Greek as κ, γ, χ; with the labial *w* or *u̯* sound, before ι, ε they become the corresponding dentals τ, δ, θ: before ο, nasals, liquids, and τ, θ, ς, they become the corresponding labials π, β, φ.

In Latin without labialisation the velars become *c*, *g*, *gh* (which is generally represented by *g* or *h*); with labialisation *k*$^{u̯}$ becomes *qu* or *c*; *g*$^{u̯}$ becomes *gu*, *g* or *v*; *gh* becomes *f*, *b*, *gu* or *v*.

The following table gives the various representatives:—

Indo-European.	Greek.	Latin.	Sanskrit.
q	κ	c	*k*, *c*.
k$^{u̯}$	κ, π, τ	c, qu	
g	γ	g	*g*, *j*.
g$^{u̯}$	γ, β, δ	gv, v, g	
gh	χ	g, h	*gh*, *jh* (*h*).
gh$^{u̯}$	χ, φ, θ	f, b, gu, v	

Palatals.

(2) The Palatal gutturals, *k̂*, *ĝ*, *ĝh*, appear in Latin, Greek, and the Teutonic languages as mutes, but in the Slavonic and Eastern languages, including Sanskrit, as spirant sounds.

The following is a table :—

Indo-European.	Greek.	Latin.	Sanskrit.
k̂	κ	c	*ç*.
ĝ	γ	g	*j*.
ĝh	χ	h, g	*h*.

Hard Velar *q*.

We will now pass on to give instances of correspondence in Sanskrit, Greek and Latin, and first of all we will take the *Velar Tenuis q*. Now Greek κ and Latin *c* can answer either to the Indo-European velar *q* or to the palatal *k*. It is Sanskrit which enables us to determine the question, because Sanskrit represents velar *q* by *k*, but palatal *k̂* by the sibilant sound *ç*.

Un-labialised.

I. The following are instances where Indo-European *q* without the labial affection answers to Sanskrit *k*, Greek κ, Latin *c* before *a*, *r* and *l*.

Sanskrit.	Greek.	Latin.
√*kar* (to mention)	κῆρ-υξ	car-men.
√*kṛt* (to spin)	κάρταλον, κλώθω	crātes.
√*kṛt* (to cut)	κείρ-ω	curtus.
√*sku* (to cover)	σκῦτος	scutum.
aṅkás (hook)	ἀγκών, ὄγκος	uncus.
rákṣāmi (I protect)	ἀρκέω, ἀλκή, ἀλέξω	arceo.
takṣan (carpenter)	τέκτων	tignum.
√*kṛ* (to do)	κραίνω, κέρδος	creare, Ceres.
kravís (raw flesh)	κρέας, κρύος	cruor, crudus.
kālas (black)	κηλίς (κᾱλίς)	caligo.
√*kṛ*, *kir* (to scatter)	κρίνειν	cerno.

Labialised.

We now pass on to those cases where the velar *q* appears with a labial sound in Greek and Latin, though not in Sanskrit.

Before the vowels *i* and *e* this labialised *q* or k^w becomes the corresponding dental τ, while in Sanskrit before similar vowels it appears as *c* (pronounced as *ch* in English *church*), which is of course more palatal than dental. The dental τ

generally appears in Greek in cases where other related words represent the velar by π before the full vowel ο. Thus assuming an original √*kʷel* (to move) we have in Greek τέλ-λω, but also πόλ-ος, while in Sanskrit we find only *cár-ati* (he moves) answering to both.

Before ο, etc.

II. *kʷ* becomes in Greek π before the full vowel ο (ω), and before τ, θ, σ, liquids and nasals. In Latin we find *qu*, sometimes becoming *c*.

In the following instances we get τ before ι, ε, but π before ο, etc. in connected words in Greek.

Sanskrit.	Greek.	Latin.
(i) *ci*	τίς	quis.
(ii) *kátara*	πότερος.	
(i) *páñca*	πέντε	quinque.
(ii) *panktí*	πέμπ-τος, πεμπ-άζω.	
(i) *sácya*	ἀ-οσσητήρ, ἑταῖρος	sequor.
(ii) *sākám*	ἕπομαι, ὀπ-άονες	socius.
(i) *catvā́ras*	τέτορες	quattuor.
(ii) *turī́ya* for **kturīya*	τράπεζα (for πτραπεζα)	quartus.
√*pac* (cook).		
(i) *pácyatē* (he cooks)	πέσσω (= πεκʷιω)	coquo.
(ii) *pákti*, derivative	πεπτός, πόπανον.	
√*vac* (speak).		
(i) *vā́cya* (voice)	ὄσσα	vox.
(ii) *vāk-á*	ὄψ.	
√*ci, cāy* (observe).		
(i) *cā́yati*	Arcad. τείω.	
(ii)	ποινή.	
(i)	τριοττίς, ὄσσε, ὄσσομαι	oculus.
(ii)	ὄψομαι, ὄμμα, ὄπωπα, ὀπή	
√*car* (move).		
(i)	τέλλω	colo.
(ii)	πόλος, πωλέω, ἔ-πλ-ετο.	

The connexion is made probable by the fact that in Homer περιτελλομένων ἐνιαυτῶν and περιπλομένων ἐνιαυτῶν are identical in meaning.

(i)	ἐνίσσω.	
(ii)	ἐνίπτω, ἠνίπαπον, ἐνιπή.	

Instances in which we have no forms with the dental surviving in Greek are—

Sanskrit.	Greek.	Latin.
√*ric* (leave)	λείπω	linquo.
	ἔννεπε (for ἐν-σεπε)	insece.
	ἔ-σπ-ετε.	in(s)quam.
	τρέπω	torqueo.
yákṛt	ἧπαρ	jecur.

Labialised before *e*, *i*.

III. k^w becomes in Greek τ, in Latin *qu* (*c*) before *e*, *i*.

√*car* (to come)	τέλλω, τέλσον	colo, inquilinus.
ca	τε	que.
-ca	ὅ-τε	quis-que.
ci	τίς	quis.
catvā́ras (four)	τέτορες	quattuor.
vā́c-ya (voice)	ὄσσα (= ὀτ-ι̯α = ὀκ^w-ι̯α)	voc-is.
√*ruc* (shine)	λεύσσω (= λευτ-ι̯ω = λευκ^w-ι̯ω)	luc-is.
√*sac* (follow)	ἀ-οσσητήρ (= sm̥-σοκ^w-ι̯ητηρ)	soc-ius, sequ-or.
√*pac* (cook)	πέσσω (= πεκ^w-ι̯ω)	coqu-o.

Labialised, but in connexion with *u*.

IV. The hard velar, even if shewing traces of labialisation in other languages, remains as κ in Greek when followed or preceded by υ.

√*ruc* (shine)	λευκός	lucet.
nákti (night)	νυκτός	noctis.
vṛkas (wolf)	λύκος.	

Here the English *f* in *wolf* represents the labialised hard velar at the end of a word.

cakras (wheel) κύκλος.

Anglo-Saxon *hweohl* stands for *hweohwol*, where *hw* represents the labialised velar.

This enables us to explain βουκόλος by the side of the obviously connected οἰοπόλος, αἰπόλος.

It seems possible that the Greek *Koppa* (Ϙ) was originally employed to denote the velar guttural, as it is certain that its Latin representative Q was. Q, which occasionally appears in very early Latin without a following *u*, would seem to have been always kept before *e* and *i*, but before *o* in the Augustan period to have passed into *c*, *quom* becoming *cum*. Strictly therefore we ought to write *ecus*, *ecum*, *equi*,

eco. *que* seems regularly to become *cu* or *co* except at the end of a word and before *r*; thus *colo* is for *quelo*, *concutio* for *conquetio*, but *quercus* remains unchanged.

A palatal *k̂* is represented in Sanskrit by *ç*, in Greek by κ, in Latin by *c* under all circumstances. A few instances will suffice. Hard palatal *k̂*.

Sanskrit.	Greek.	Latin.
çirá (for *çr̥rá*)	κάρα, κάρηνα	cerebrum, cervix.
çatám	ἑκατόν	centum.
√*çri*, *çr̥* (resort)	κλίνειν, κλιτύς	in-clinare, clivus.
	κέρας, κριός	cornu, cervus.
√*çru* (renown)	κλέϝος, κλύω	cluere.
çānas (grindstone)	κῶνος	cos, catus, cuneus.

The law of the transformation of the soft velar *g* is precisely the same as that for the hard velar *q*. The soft velar *g*.

In Sanskrit there is no trace of a succeeding labial *u̯*, and *g* becomes the corresponding palatal *j* before the thin palatal *i* (*y*) and *a* (=I.-E. *e*). Elsewhere it is *g*.

In Greek, if labialised, *g* becomes before ι, ε the corresponding dental δ: before ο, τ, θ, ς, liquids and nasals, it becomes the corresponding labial β or its equivalent. Otherwise it appears as γ.

In Latin it would seem in the first instance to have become *gu̯*, just as *q* appears as *qu*, but this *gu̯* only remains after nasals in the middle of a word. Initially it appears as *g* before consonants, as *v* before vowels. Medially between vowels it is *v*.

I. Velar *g* unlabialised is Greek γ, Latin *g*. Unlabialised.

√*jan* (to beget)	γένος, γίγνομαι	genus, gigno.
yugám (yoke)	ζυγόν	jugum.
√*bhuj* (to bend)	φυγή	fugio.
gargara (whirlpool)	γαργαρεών	gurges.

II. Velar *g* labialised (g^{u}) is in Sk. *g*, *j* (which represents Labialised before *o*, etc.

an unlabialised form), Gk. β before ο, τ, θ, ς, liquids and nasals, Lat. *gu*, *v* or *g*.

Sanskrit.	Greek.	Latin.
√*gam* (go)	βαίνω	venio.
gurú (heavy)	βαρύς	gravis.
√*jīv* (to live)	βίος	vivus.
√*ji* (to conquer)	βία, βιός	vis, vi-olentus.

The Lat. *vis* may, however, be connected with Gk. ϝίς, ϝῖνες, ϝῖφι.

It will be noticed that neither βίος nor βία follow the rule, inasmuch as before ι we should have expected *δίος, *δία. It is possible that we may find the dental of the first stem in δία-ιτα, and in ζῆν, which may stand for δι̯α-ειν. The β in βιός, βία so far has not been explained.

√*gir* (swallow)	βορά, βιβρώσκειν	vorare.
gāus (cow)	βοῦς	(bos).
√*nij* (cleanse)	χέρ-νιβ-α, νίπ-τω.	
	ἀμνός (for ἀβνός)	agnus.
√*gal* (drop)	βάλλω (g̑l̥ι̯ω)	volare.
galana	βάλανος	glans.

Labialised before *e*, *i*.

III. Velar g^u appears in Greek as δ before ι and ε.

The following are cases of β and δ alternating in the same word in some Greek dialect or another:

√*gal*	ἐσδέλλοντες (Arcadian)	βάλλω.
	ζέλλειν (quoted in Hesychius)	βολή.
	δέρεθρον (Tegeatic)	βάραθρον.
	ζέρεθρον (Arcadian)	
	ἐπιζαρέω (Pseudo-Eur. Rhes. 441)	βαρύς.
	ὀδελός (Doric)	ὀβελός.

The common form ὀβελός is a result of a confusion of the two forms by what is called 'contamination.' If the ο of Greek is prothetic, we may compare Lat. *veru*.

gárbha (embryo) δελφύς, ἀ-δελφός, δέλφαξ βρέφος.

Perhaps the same root appears in *gremium* (*greb-mium*). We may also mention the Boeotian βανά for γυνή: the form with the labial also appears in μνάομαι (for βν-αομαι).

In Arcadian, ζ represents a softened δ as in ζέλλειν. Sometimes it represents γι̯ as in μείζων (μεγι̯ων), ὀλείζων (ὀλεγι̯ων), the velar guttural being affected by the following palatal ι̯.

IV. Velar *g* labialised (g^u), but with *u* preceding or following, is in Greek γ. **Labialised, but in connexion with *u*.**

Sanskrit.	Greek.	Latin.
		voveo (gʷoʷ-eo).
	ἐγ-γύ-η	vola (hollow of the hand).
	γύαλον	volema (large pear).
	γυνή beside βανά, μνᾶσθαι.	

The soft palatal *ĝ* is in Sanskrit *j*, in Greek γ, in Latin *g*, under all circumstances. **Soft palatal *ĝ*.**

jā́nu (knee)	γόνυ	genu.
√*jambh* (crush)	γόμφος, γαμφαί.	
√*aj* (to drive)	ἄγω	ago.
√*ṛj* (shine)	ἄργυρος	argentum.
√*ṛj*, *raj* (to reach)	ὀρέγω	rego.
√*marj* (to wipe)	ἀμέλγω	mulgeo.
jaran (old man)	γέρων, γραῦς.	
√*juṣ* (enjoy)	γεύω	gustus.

The unlabialised aspirated velar *qh* is in Sanskrit *h*, *gh*, in Greek χ, in Latin *h*, after a nasal *g*. **Aspirated velar *qh*.**

I.-E. √*qhed*	χανδάνω, χείσομαι (for χε-ν-δ-σομαι)	pre-hendo.
I.-E. *k̂onqh-*	κόγχος	congius.

The labialised aspirated velar qh^u is in Sanskrit *h*, *gh*; in Greek θ before ι and ε; φ before ο, τ, θ, ς, labials and nasals; elsewhere χ; in Latin initially *f*, medially *gu* after a nasal, *v* between vowels, and perhaps *b* in the neighbourhood of *r*. **Labialised velar aspirate.**

gharmá	θερμός	formus.
	νίφα (νιφη)	nivis, ninguit.
hanti, *ghn-anti*	φόνος, θείνω	-fendo.
	ἐ-λαχύς	levis.
	βραχύς	brevis.
	θήρ, Aeol. φήρ	ferus.
	ὄνυχ-ος	unguis.

The palatal aspirate *ĝh* is in Sanskrit *h* (*jh*), Greek χ, Latin *h* (or *g* after *n*). **Palatal Aspirate.**

Sanskrit.	Greek.	Latin.
himá (cold)	χιών, χειμών, δύσχιμος	hiems, bimus (bihimus).
√*vah* (to carry)		veho.
	χαμαί (χημαί)	humus.
sáha (power)	ἔχω, ἕξω, ἔ-σχ-ον.	
√*spṛh* (be eager)	σπέρχω.	
I.-E. *angh-*	ἄγχι, ἆσσον.	
	χόρτος	hortus, cohors.
	χορδή	hariolus (haruspex).
áhas (distress)	ἄγχω	ango.

The Dentals.

The hard dental *t* is unchanged in Greek and Latin :—

τρεῖς, τρίτος, *trēs*, *tertius*; τό, τῆμος, τώς, etc.. *to-t*, *to-tus*, *tum*, *tam*, *is-te*, etc. ; τέρμων, τέρμα, τέλος, *terminus* ; τατός, τείνω, τανaός, *tendo*, *tenuis*.

The soft dental *d* is unaltered in Greek and Latin :—

δέκα, *decem* ; δίδωμι, δῶρον, *dono*, *donum* ; δῖϝος, *divus* ; δαμάω, ἀδάμας, *domare* ; δείκνυμι, δίκη, *dīco*, *indīco*, *dicis* (*causa*) ; ἁνδάνω, ἁδύς, *suadeo*, *suā*(*d*)*vis* ; δαπάνη, *dapes*, *damnum* (= *dap-num*).

We get however a certain number of cases in which a Greek δ appears in Latin as *l* :—

δάκρυ, *lacruma*, old Latin *dacruma* ; ἕδος, *solium* beside *sedeo* ; ὀδός, *solum* ; δάηρ (δαιϝηρ), *levir*.

So *dingua* in the grammarians beside *lingua*. Cf. *adeps*, ἄλειφαρ ; ὄδωδα, *olere*.

The dental aspirate *dh* is in Greek θ. Latin, having no aspirates, represents it initially by *f*, medially by *d*, or in the neighbourhood of *r* by *b* :—

τί-θημι, θε-τός, *facio* ; θῆλυς, θηλᾶν, τιθήνη, *femina*, *felare* ; αἴθω, *aestas*, *aedes* ; γήθεω, *gaudeo* ; ἠίθεος (ἠ-ϝιθεϝος), *viduus*.

Latin *b* answers to θ in ἐρυθρός, *ruber* ; οὖθαρ, *uber* ; ἐλεύθερος, *liber*.

The Labials.

The hard labial *p* is unchanged in Greek and Latin :—

πατήρ, *pater* ; πέτομαι, πίπτω, *peto* ; πυός, πύθομαι, *putris*, *putere* ; πυγών, πύξ, πυγμή, *pugil*, *pugna* ; πῦρ, πύϊρ, *pru-na*, *prurire*, *pru-ina* ; παύω, παῦρος, *pau-cus*, *pauper* ; πεδή, *im-pedire*.

In the prepositions *ob*, *sub*, *ab*, answering to the Greek ἐπί, ὑπό, ἀπό, the final *p* has become *b*, a final *p* being unknown in Latin (except in *volup* for *volupe*). A final *b* is only found in these three words.

A Greek word containing π was sometimes transliterated in Latin by *b*: thus Ennius used *Bruges, Burrus* to represent Φρύγες, Πυρρός. So in Latin we have an interchange of *p* and *b* in *potus* beside *bibo* (Sk. *pibāmi*), etc.

The soft labial *b* seems to have been almost unknown in the original language. It is very rare in Sanskrit; though common in Greek, it there originates mostly from *g*, ϝ, or μ before a liquid; it is uncommon in Latin, except as the representative of medial *dh* near *r*, medial *bh* or initial *du̯*.

It may be original in μόλυβδος, *plumbum*; √*slib-*, ὀ-λιβρός, *lubricus*, Eng. *slip*; τύρβη, *turba*, Eng. *thorp*; λόβος, Eng. *lop-eared.*

β is a merely euphonic insertion between μ and λ or ρ in

ἤμ-β-ροτον, ἥμαρτον—μεσημ-β-ρία, ἡμέρα—μέμ-β-λεται, μεμέληται—ἄμ-β-ροτος, βροτός, dial. μορτός—μέμ-β-λωκα, ἔμολον—ἀμ-β-λακίσκω, ἀμ-β-λώσκω, μαλακός—γαμ-β-ρός, γάμος.

Compare the corresponding insertion after ν in ἀν-δ-ρός.

In some words an initial Greek β, mostly before liquids, represents a Latin *f*; but β may itself represent an earlier φ, as φλύω seems to be earlier than βλύω :—

βρέμω, *fremo*; βλύω, *fluo*; βάσκανος, *fascino*.

A Greek β represents

(i.) an original *g* (p. 53);

(ii.) an original μ before ρ and λ—

βλίττω, μέλι; βροτός, *mors*; βλώσκω, ἔμολον; βραδύς, *mollis* (*ml̥du̯is*);

(iii.) an original ϝ in the Aeolic dialect—*e.g.*, βρόδον for ϝρόδον before ρ.

A Latin *b* represents an original *du̯* in

bellum, *duellum*; bis, *duo*, δίς; bimus, *dimus*; bonus, Old Latin *duonus*.

Indo-European *bh* has become in Greek the hard aspirated labial φ. Latin, having no aspirates, represents it initially by *f*, medially by *b* :—

φῦναι, *fuisse*; φράσσω, *farcio*; φύλλον, *folium*; πείθειν (=φειθειν), *fido*; ῥοφέω, *sorbeo*; ἄμφω, *ambo*; ἀμφί, *ambi*; ἀλφός, *albus*.

The Liquids.

The liquid *l*, where non-sonant, is unchanged in Greek and Latin, except so far as it alternates with *r*; and we need give only a few instances.

In Greek a prothetic vowel often appears:—

ἐ-λαχ-ύς, levis; *λύω, -luo, so-lvo*; *λούω, lavo*; *λέγω, lego.*

Indo-European *r* is unchanged, but when initial always has a prothetic vowel in Greek. Few instances are required.

ἄρ-θρον, ἀραρίσκω, ar-mus, ar-tus, ar-mentum; *ἀράχνη, aranea*; *ἀρόω, ἄρουρα, aro, arvum*; *ἀπό-ϝερσε, verrere*; *ὄρ-νυμι, orior*; *ὁράω, vereor.*

It cannot perhaps be decided whether the original language possessed both the liquids *r* and *l* or not; but if not, the balance of evidence is in favour of supposing *r* to be the original and *l* a subsequently developed sound.

The Nasals.

Indo-European *n* is unchanged in Greek and Latin, and requires but little illustration.

ἄνεμος, animus; *γένυς, gena*; *εἰνατέρες, janitrices*; *ἐνί, εἰν, ἐν, in, in-ter*; *ἐννέα, novem.*

Indo-European *m* is unchanged in Greek and Latin.

μέσος (μεθ-ι̯ος), medius; *μήν, mensis*; *μήτηρ, mater*; *μίγ-νυμι, misceo (mig-sceo)*; *μορμύρω, murmur*; *μυῖα (μυσ-ι̯α), mus-ca.*

The nasal followed by a consonant is always assimilated to the character of that consonant; e.g. it is guttural in *quinque, ἐγκαλέω*, dental in *ἐντέλλω*, labial in *ἐμποδών*. This is shewn even in the combination of distinct words; e.g. *eandem* and the pronunciation of *τὴμ πόλιν, τὸγ κόλπον*, which is the spelling found in old inscriptions.

Alternation of hard, soft, and aspirated consonants.

We may notice that there are some cases in which hard and soft or soft and aspirated consonants seem to alternate in the same root, mostly when they are the final letters of a stem. Thus we find:

πήγ-νυμι, pango, compages	beside	paciscor, pax.
scabo	,,	*σκαπάνη.*
lambo	,,	*λαπάζειν.*

στέμβω	beside	*ἀστεμφής*.
πύνδαξ	,,	*πυθμήν*.
ἐγώ, ego	,,	Sk. *aham*.

This alternation has not yet been explained.

Spirants. SPIRANTS are sounds in the utterance of which the mouth channel is so far narrowed that the stream of breath sounds against the sides of the passage. They consist of the hard dental spirant *s* and the soft *z*; the soft palatal spirant *y* (or *j*); the labial spirant *w*, in Greek *F*, which cannot be distinguished from the consonantal *u̯*.

The Sibilants *s* and *z*. The soft spirant *z* is usually represented in Greek by the same symbol *σ* as the hard *s*. In the dialects however we find it sometimes represented by *ζ*, in *ψήφιζμα*, *κόζμος*. The nature of the spirant depends on the following sound. Before hard sounds it is *s*, before soft sounds it is *z*.

Initial hard *s* remains before consonants:

σκῦτος, *scutum*; *σκάπτειν*, *scabies*; *ἀ-στέρ-α*, *stella* for **ster-la*; *στατός*, *status*.

Initial *s* before vowels becomes in Greek the hard breathing, in Latin remains *s*:

ἕδος, *sedeo*; *ἅρπη*, *sarpo*; *ἑπτά*, *septem*; *ἕπεσθαι*, *sequor*; *ἡμι-*, *semi-*; *ἡγεῖσθαι*, *sagire*, *praesagus*; *ἕνος* (*ἕνη καὶ νέα*), *senex*.

Initial *σ* before vowels in Greek, where it remains, is the relic of a group of consonants, e.g. *σεύω* = *σ-σευω* √*q̯i̯eu̯*, *σέβομαι* = *τι̯εβομαι*, *σαλεύω* = *σFαλευω*. Sometimes initial *σF* = *su̯* is represented in Greek by the rough breathing, e.g. *ἡδύς* = *su̯ād-ú-s*, *ἕξ* = *su̯eks*.

Medial hard *s* remains before consonants (*ks*, *gs*, written *ξ*, *x*),

ἐσ-τί, *es-t*; *ἐξ*, *ex*; *ἀξών*, *axis*.

Between vowels in Greek, *σ* becomes the rough breathing and disappears: where it remains it

(1) is the reduction of *σσ*, e.g. *μέσος* = *μέσσος*.

(2) Represents an original τι, e.g. φάσις = φάτις, φᾶσί = φαντι, τύπτουσα = τυπτοντι̯α.

(3) Is due to analogy, e.g. βου-σί keeps its σ like θριξί (= θρικ-σι).

Rhotacism. In Latin intervocalic *s* becomes *r*, a change known as *Rhotacism.* Nearly all cases of *s* between vowels stand for an earlier *ss* after a long vowel; e.g. Cicero wrote *caussa.* Comparing Greek, where *s* disappears, with Latin where it becomes *r*, we have νυός *nurus*, ἰός *virus*, οὔατα *auris*, γένους (= γενεσος) *generis*, Μουσῶν (= Μουσασων) *Musarum.* The date of this change from *s* to *r* between vowels is usually thought to be fixed by Cicero, *ad Fam.* 9. 21, where he says that L. Papirius, cos. B.C. 336, was the first to change his name from Papisius to Papirius. The question is not however finally settled, and in some words, e.g. *miser*, the *s* is kept at all periods.

S also passes into *r* before *m*, *n*, *v*, *g*, as in

ver-na, Ves-ta; *veter-nus*, ϝέτεσ- (ἔτος); *Car-mena*, for *Casmena*; *fur-vus*, *fus-cus*; *Miner-va*, μένεσ- (μένος); *diur-nus*, *nudius* (*tertius*); *hodier-nus*, *dies*.

A final *s* never becomes *r* in Latin by phonetic law; *arbor*, *melior*, etc. are due to the analogy of the intervocalic *s* (= *r*) in the oblique cases, and *honos*, *lepos* are the common forms in Cicero.

This fact has an important bearing on the final *-r* of the passive, which cannot therefore come from the *-s* of the reflexive.

The Digamma. It is possible to distinguish between the semivowel *i̯* and the palatal spirant *y* (or *j*), but it is not possible to make any distinction between the labial *u̯* and the digamma. The old grammarians represented the sound of the digamma by ου. This ου was pronounced almost or entirely in the same way as the semivowel *u̯*, and corresponds to the sound of the English *w*.

The evidence for the existence of the digamma is its appearance in a dialect or in a cognate language, or the fact that it is necessary for the scansion of the Homeric poems.

We find the ϝ extant in numbers of inscriptions, especially Dorian. Thus the Doric ϝίκατι, ϝείκατι correspond to the Attic (ϝ)εἴκοσι, ϝέτος to ἔτος, Latin *vetus*, ϝέξ to ἕξ, Latin *sex*, I.-E. *su̯ex*, and so on. Though called by Quintilian the *digamma Aeolicum*, it is not found in the later Lesbian inscriptions, and in the poems of Alcaeus and Sappho is represented by β before ρ (βράκος, Hom. ῥάκος, for ϝρακος, etc.).

In the Homeric poems the digamma is no longer found represented by a special written symbol. Partly it has disappeared altogether, but left traces of its presence in the lengthening of a short vowel or in the existence of an otherwise impermissible hiatus; partly it has coalesced with a preceding vowel into a diphthong, and is then written υ. In Homer.

Thus Ἄϊδος beside Ἄιδος = Ἀϝιδος (Ἀυιδος); φάεα beside φάος = φαϝεα (φαυεα); ἀπόέρσῃ = ἀποϝερσῃ (ἀπουερσῃ), cf. ἀπούρας, αὐέρυσαν, αὐίαχοι, ταλαύρινος, εὔαδε (p. 43), where υ stands for the sound of ϝ.

Initial ϝ disappears in Greek, but is often represented by the aspirate. In Latin we find *v*. Initial ϝ.

ϝίκατι (Dor.), *viginti*; ϝάγνυμι, *vagus*; ϝέριον, *vellus*, cf. *wool*; ϝεσθής, ϝέν-νυμι, *vestis*; ϝέσπερος, *vesper*; ϝέαρ (ϝε-ϝr̥), *vēr*; ϝοῖκος, *vīcus*, cf. *wick*; ϝελίσσω, *volvo*, cf. *wallow*; ϝελπίς, ἔϝολπα, *volup*, *voluptas*; ϝέπος, ϝόψ, *vox*; ϝιδεῖν, ϝίστωρ, *video*, cf. *wit*; ϝείρω, ϝερέω, *ver-bum*, cf. *word*; ϝέτος, *vetus*, cf. *wether*.

Medial ϝ disappears in Greek or is represented by υ coalescing with another vowel into a diphthong. In Latin it is *v*. Medial ϝ.

Διϝός, *Jovis*; βοϝός, *bovis*; ἐν-νέϝα, *novem*; νέϝος, *novus*; κόϝιλος, *cavus*; ἑός, τεός, *suus*, *tuus*—Old Latin *sovos*, *tovos*; ἠ-ϝίθεϝος, *viduus*.

Initial *su̯* always loses ϝ in Greek and sometimes σ also. In Latin we get sometimes *s*, sometimes *su*; and it is probable that originally *s* was used when the preceding word ended with a consonant, while *su* was kept when the pre- Initial *su̯*.

ceding word ended with a vowel and the double sound was therefore easily pronounceable.

ἡδύς (σϝᾱδύς), *suavis*, *suadeo*, English *sweet*. We have the double form *savium* and *suavium* from the same root.

An initial *su̯e* becomes in Latin *so*, in

soror for *su̯esor*, cf. *sister*, Germ. *Schwester*.
sorex, Greek ὕραξ.
sodalis, Greek ἔθος for σϝεθος.
socer, Greek ἑκυρός for σϝεκυρος.
somnus for *su̯epnus*, Greek ὕπνος, cf. sopor.

Spiritus Lenis and Asper.

The Spiritus asper appears in Greek as the representative of a lost *s*, ϝ or *i̯*. The sign of the rough breathing was in the earliest times H, but in the Ionic alphabet this symbol was given the value of an *ē*-sound. When the Ionic alphabet was adopted in Attica, the sign for *h* was dropped, and the spiritus asper accordingly no longer stood upon the same level as the other consonants. The Ionians bear witness to a weakness of distinction between the rough and smooth breathing, since they do not aspirate a preceding tenuis before an aspirated vowel in cases of elision, but write, e.g. ἀπ' οὗ, κάτοδος, etc. The Alexandrians adopted ├ as the sign of the rough breathing.

An initial rough breathing in Greek represents—

(1) An original *s* in—

ἕ, οὗ, οἷ, *suus*, *se*; ἕδος, *sedeo*; ἅρπη, *sarpo*; ἑπτά, *septem*.

(2) An original ϝ in—

ἧλος, *vallus*; ἕννυμι, *vestis*; ἕσπερος, *vesper*; ἑστία, *Vesta*.

In other cases the ϝ is represented before vowels by the spiritus lenis (p. 61).

(3) An original *i̯* in—

ὅς, Sanskrit *yás*; ὑμήν, *syúman*; ὑσμίνη, *yudh-*; ὑμεῖς, *yuṣmán*.

Before an initial υ the aspirate regularly appears, even where there was no original initial consonant, e.g.—

ὕδωρ, Sanskrit *udán*; ὑπό, *úpa*; ὑπέρ, *upári*; ὕστερος, *úttara*.

In some cases an aspirate appears simply on the analogy of cognate or related forms. Thus the Doric ἀμές, Attic ἡμεῖς, owes its rough breathing to ὑμεῖς, and ἧσται, Sk. *áste*, to the analogy of ἕζομαι √*sed*.

Alternation of rough and smooth breathing. The alternation of rough and smooth breathings in the same or cognate words may in part be explained by the law by which not more than one aspirate is allowed in the same word. The root of ἔχω is *segh-*, which would regularly produce ἕχω, but the first aspirate is dropped because of the following χ. In the future however the second aspirate is lost and the first re-appears in ἕξω. Similarly one termination of the imperative is -θι (ἴσθι), but λύθη-θι is altered into λύθητι. This may explain why from the root *sed* we have ἕζομαι, ἕδος, ἵζω (σι-σδ-ω), as well as ἔδαφος, ἔδεθλον.

An original σ between two vowels, as we have seen, disappears, but only by first becoming the rough breathing, so that the change is the same as we have seen taking place with initial σ. Therefore an original *sụīdos* will become in Greek *h*ϝῖδος, genitive ϝῖϝε*hos*: the nominative may have given rise to ἱδρώς, the genitive to ἶδος.

Similarly the original prefix *sm̥-* becomes ἀ- when there is an aspirate in the following syllables, as in ἀδελφός, ἄλοχος, but ἁ- when there is no following aspirate, as in ἅπας, ἅπαξ. Forms like ἀγάλακτος, ἄπεδος, ἀθρόος are due to confusion.

In some cases however the variation can be referred to no such general law, but must be ascribed to a difference of dialect, as in the Homeric οὖλος, οὖρος, ἦμαρ, ἄμαξα beside the Attic ὅλος, ὅρος, ἡμέρα, ἅμαξα, where aspiration may be due to crasis with the article.

Attic ἥλιος, Epic ἠέλιος, cf. ἀντ-ήλιος; Attic ἵππος, Lat. *equus*, cf. Λεύκ-ιππος; Attic ἕως, Epic ἠώς, are also instances of variation.

***H* in Latin.** *H* in Latin is the regular representative of an Indo-European *gh*, *ĝh*, and perhaps *bh*, *dh* at the beginning of a word.

Medially between vowels it is commonly lost, and so we have *vemens* and *vehemens*; *nil* and *nihil*; *prendo*, *probeo*, *praebeo* and *prehendo*, *prohibeo*, *praehibeo*, etc. It is also lost, e.g. in:—

meio = *meihio*, Greek ὀμιχεῖν; *aio* = *ahio*, Greek ἦχ-ανε; *nivis* = *nihuis*, Greek νίφα; *brevis* = *brehuis*, Greek βραχύς.

The aspirate however was as unstable a sound in Latin as in Greek or in modern English. In some words, where it ought to appear, it is never found, e.g. in *anser*, which a comparison of χήν, English *gander*, shews ought to be *hanser*. In other cases the spelling with or without the *h* is almost equally well authenticated, as in *harena* beside *arena*, *hedera* beside *edera*. But on the whole the tendency of Latin is to insert the aspirate irregularly. We are told that in the second century after Christ *honus*, *sepulchrum*, *lachrumae*, *chenturio* became common; and much earlier Catullus ridicules the custom in the well-known epigram—

Chommoda dicebat si quando *commoda* vellet
Dicere et *insidias* Arrius *hinsidias*.
* * * * *
Hoc misso in Syriam requierunt omnibus aures,
* * * * *
Cum subito affertur nuntius horribilis,
Ionios fluctus postquam illic Arrius isset
Jam non *Ionios* esse sed *Hionios*.

CHAPTER VI.

COMBINATIONS OF SOUNDS.

Now that we have dealt with the different simple sounds in Greek and Latin it remains to consider the combinations of those sounds in words. This has been partly touched upon in speaking of the diphthongs, which are composed of sounds originally distinct but have come to be uttered in a single emission of the breath.

Hiatus.

In the original Indo-European language *Hiatus*, that is the contact of two neighbouring vowels without contraction, was inadmissible. For example, from Sanskrit we are able to see that where suffixes beginning with a vowel were added on to stems ending in a vowel, contraction took place, or if the vowel were *i* or *u*, an intervening semivowel was developed. Thus Lat. *patr-i-us*, Gk. *πάτρ-ι-ος* allow of hiatus between *i* and *u*, and *ι* and *ο*, whereas in Sanskrit we find *pitr-ĭya-s* where a *y* has been developed between *i* and *a*. Like Sanskrit the original language did not admit of hiatus and, wherever we find it in Greek and Latin, these languages have deviated from the parent speech.

I. VOWEL COMBINATIONS.

Contraction of vowels in Greek.

1. In Greek, although there are frequent instances of hiatus, as for instance in *θεός*, *ἔαρ*, *λέων*, *ἀκήκοα*, yet, more frequently, neighbouring vowels contract into a single sound, whether a long vowel or diphthong.

Thus taking the short vowels, those of the same quality contract, e.g.—

α + α = ᾱ, e.g. λᾶ-ας, λᾶς.
ε + ε = ει, e.g. σαφέ-ες, σαφεῖς.
ο + ο = ου, e.g. νό-ος, νοῦς.

Vowels of different quality contract, e.g.—

α + ε = ᾱ, e.g. δρά-εται, δρᾶται.
α + ο = ω, e.g. φά-ος, φῶς.
ε + α { = η, e.g. γένε-α, γένη.
 = ᾱ, e.g. ὀστέ-α, ὀστᾶ.
ε + ο = ου, e.g. Θεοκυδίδης, Θουκυδίδης.

We must distinguish, as we have already seen (p. 34), the ει and ου which are the result of contraction from the original diphthongs ει and ου. Secondary diphthongs which arise from contraction, or from compensatory lengthening as in the case of τούς for τονς and εἷς for ἑνς, though written the same as the original diphthongs ει and ου, were not identical with them in sound. The genuine diphthongs ει and ου are always so written on inscriptions, but the spurious diphthongs ει and ου, which rose out of contraction or compensatory lengthening, are written in the earliest inscriptions as ε and ο, e.g. ἐναι for εἶναι and δημο for δήμου, and were sounded as a long narrow $\bar{e}$ and $\bar{o}$, while ει and ου, which represented original diphthongs, were more open sounds.

Contraction in Greek frequently results from the disappearance of an original spirant or semivowel.

Thus i̯ has disappeared in—

φιλε-i̯-ω, φιλέω, φιλῶ; Ἑρμε-i̯-ας, Epic Ἑρμείας, Attic Ἑρμῆς.

The digamma or u̯ has fallen out in—

παu̯-i̯ω, παίω; κλεϝι-τος, κλειτός; δοϝ-έναι, δοῦναι.

An intervening σ has disappeared in—

γενε-σ-ος, γένους; τελε-σ-ω, τελέω, τελῶ.

Sometimes the spirant disappears without being followed by contraction, as, for instance, in νέος for νεϝος, πλέω for πλεϝω, and so also in ἀήρ, ἐννέα, Ἡρακλέους, and others. In such cases it is worth noticing that one of the two vowels is generally accented.

Shortening of long vowels.

2. In Greek we find long vowels shortened before a semivowel combined with a consonant. Thus Greek Ζεύς answers to Sanskrit *dyā́u-s* and this points to I.-E. *di̯ēús*. Other instances are βοῦς answering to Sk. *gā́us* and I.-E. *gōus*, πλεῖστος

from √*plē* as in πίμ-πλη-μι, and ἵπποις answering to Sk. *áçvāis*.

3. We find a metathesis of the original quantity of neighbouring vowels in— Metathesis.

ἑστεῶτες for ἑστηϝοτες; τεθνεῶτες for τεθνηϝοτες; βασιλέως for βασιλῆος (Epic); βασιλέᾱ for βασιλῆᾰ (Epic).

In the Attic νεῶν and ἕως the first vowel has been shortened as compared with the Epic νηῶν and ἠώς.

Combination of Vowels in Latin.

1. *Contraction* results from the loss of a semivowel *i̯* or *u̯* or occasionally of *h*; *monete* for *monei̯ete*, Sk. *mānáyate*; *trēs* for *trei̯es*, Sk. *trayas*; *amaram* for *amaveram*; *nil* for *nihil*. Contraction.

eŏ, *eă*, *iŏ* remain uncontracted (*mone(i̯)o*, *mone(i̯)am*, *audi(i̯)o*) as does *aē* when the second vowel carries the accent, as e.g. *aénus*, contrasted with *aes*, Sk. *áyas*.

In composition a short vowel is elided before a long, as *nullus* for *ne-ullus*. But a short vowel unaccented contracts with a preceding vowel (*dego* for *déago*).

2. Shortening of long vowels takes place, as in Greek, when the long vowel is followed by a semivowel and a consonant, e.g. *năufragus* (*nāvis*), *vĕntus* (cf. ἀϝεντ- but ἄησι). The first of two consecutive vowels is regularly shortened in classical times (*rĕi*, *fidĕi*) except in genitives of the 5th declension when *ēi* is preceded by *i* (*diēi*). In some cases we get a variation of quantity (*fīo* but *fĭeri*, *illīus* and *illĭus*). Shortening of long vowels.

3. Originally short vowels were pronounced long before *ns*, *nf*, *gn*, *gm* (*ingēns*, *īnferior*, *āgmen*, *dīgnus*), but this is not borne out in all cases by the evidence of the Romance languages. Lengthening of short vowels.

II. VOWELS AND SEMIVOWELS.

1. Short vowels are lengthened in Greek by way of compensation for the loss of a Nasal or Liquid. Thus where Loss of Nasals and Liquids.

a double Nasal or Liquid is reduced to a single, short α is lengthened to ᾱ or η in Attic or Ionic.

Lesbian στάλλᾱ, Attic στήλη—Lesbian ἄμμες, Att. ἡμεῖς—πᾶσα = πανσα —ἀλλήλων = ἀλλ-αλλων—χηνός = χανσ-ος.

Nasals and Liquids with σ. 2. Where an original σ combined with a nasal or liquid disappears, the Lesbian dialect doubles the nasal or liquid, while in Attic the vowel is lengthened in compensation for the loss of σ.

ἐμεν-σα, Lesbian ἔμεννα, Att. ἔμεινα.
μην-σος, Lesbian μῆννος, Att. μηνός.
χεσ-λιοι, Lesbian χέλλιοι, { Att. χίλιοι. Ion. χείλιοι.
φαεσ-νος, Lesbian φάεννος, Att. φαεινός.

Short ο is lengthened (p. 66) in Attic as compensation for the loss of a nasal in

Attic ὑπάρχουσαν, Cretan ὑπάρχονσαν.
„ τούς, „ τόνς.
„ μοῦσα, „ μον-τι̯-α.

Loss of digamma. 3. The disappearance of the digamma leaves no trace in Attic. In Lesbian we find a compensatory doubling of the consonant, and in Ionic and Doric a lengthening of the vowel. Thus digamma disappeared after δ, λ, ρ, ν, in the following cases amongst others which might be given.

κορϝα, Ionic κούρη, Doric κώρα, Att. κόρη.
δορϝος, „ δουρός, „ δορός.
ὀλϝος, „ οὖλος, „ ὅλος.

Similarly

Lesb. δέρρα, Ion. δείρη, Att. δέρη.
„ ξέννος, „ ξεῖνος, „ ξένος.
„ γόννα, „ γοῦνα, „ γόνα-τα.

In all the above instances ει and ου which arise from compensatory lengthening are, like the ει and ου which arise from contraction, to be distinguished from the original diphthongs ει and ου.

Vowels and Semivowels in Latin.

Original *ei*. The combinations of vowels with i̯, u̯ have been already treated under Diphthongs.

An original *el* becomes *ol* (*ul*) except before *l* and *i*.

volo, velim, vellem. colo (for quelo): inquilinus.
volvo: ϝελύω.

But an initial *cel*, *gel* remain, (*celer*, *gelu*).

u̯e becomes *u̯o*.

vomo, ϝεμέω.

But *u̯e* was by a later change reestablished, at any rate in close syllables, and we get *vestis* (ϝεσ-θής), *vesta*, *verbum*: cf. *vīcus* (*veicus*), *vīnum* (*veinum*), beside ϝοῖκος, ϝοῖνος, etc.

The ordinary rules governing the treatment of unaccented vowels, and of vowels in composition must be looked for in the grammars. But we may call attention to one or two points. Unaccented vowels.

Latin possessed certain intermediate sounds not exactly represented by any letter, and consequently sometimes indicated by one character, sometimes by another. *maximus* beside *maxumus* represents the modified *ü* sound, for which Claudius invented a special character; *vitulus* beside *vetus* perhaps a similar sound intermediate between *e* and *i*.

A similar theory seems required to account for the alternation of *ō* and *ū*, *ei*, *ē* and *ī* which we have noted above (p. 34).

The doubling of short *i* and of short *u* was avoided: *abi-etis* contrasts with *boni-tas*, *mortuos* (post-Augustan *mortuus*) with *dominus*.

Lastly, it is probable that *ĕ* and *ŏ* preceding the original accent became *ă*-, cf. *ratís* and ἐ-ρετ-μός, *vas* (for *vadís*) and ἄ-ϝεθ-λον, *magnús* and μέγας, *salvús* and *solidus*.

eng, *onc*, *ong* become respectively *ing*, *unc*, *ung*. *tingo* τέγγω—*uncus* ὄγκος—*unguis* ὄνυξ (I.-E. *ongh*ᵘ). Also before *gn* *e* becomes *i* in *ignis* for *n̥gnis*, Sk. *agni*, *dignus* √*dec*.

An original *ri* and probably also *ro* and *ru* in an unaccented syllable become *er*. Thus *certus* beside κριτός, *cervus* beside κριός, *acerbus* for **acribus*, *sacerdos* for *sacro-dos*, *terreo* for *trosei̯o*, a causative of τρέ(σ)ω. Hence also nominatives of the 2nd declension like *ager* for *agros*.

Finally, we may notice the tendency of vowels on either side of *l* to assimilate, which produces *simulo* but *similis*, *alacer* instead of *alecer*, *calamitas* but *incolumis*, etc. (p. 38).

III. CONSONANTAL COMBINATIONS.

Assimilation of mutes.

1. Two consecutive mutes in Greek are assimilated to one another, that is, they must both be hard, soft or aspirate.

Thus before *τ*

ἔχ-τος passes to *ἐκ-τός*; *βαφ-τος* to *βαπ-τός*; *λελεγ-ται* to *λέλεκ-ται*.

Before *δ*

πλεκ-δην passes to *πλέγ-δην*; *κρυπ-δην* to *κρύβ-δην*; *ἐπιγραφ-δην* to *ἐπιγράβ-δην*.

Before aspirates

ἐπλεκ-θην passes to *ἐπλέχ-θην*; *ἐτυπ-θην* to *ἐτύφ-θην*; *νύκτ' ὅλην* to *νύχθ' ὅλην*.

These last three instances represent a change of writing, and not a real change of pronunciation.

Dentals becoming *σ*.

2. Before a following *τ* or *θ* another dental becomes *σ*, e.g.

ἀπατ-τος passes to *ἄπασ-τος*; *ἰδ-τε* to *ἴσ-τε*; *πεπειθ-ται* to *πέπεισ-ται*; *ἐψευδ-θην* to *ἐψεύσ-θην*; *ἐπειθ-θην* to *ἐπείσ-θην*.

Dentals appear to pass into *σ* before *μ*, but this is not the fact, as we can see from *ἐρετ-μός*, *οἶδ-μα* and *πυθ-μήν*. Cases where they appear to do so must be explained by analogy. Thus *ἴδ-μεν* is turned into *ἴσ-μεν* to make it follow the analogy of *ἴσ-τε*, *πεπυθ-μαι* into *πέπυσ-μαι* to make it like *πέπυσ-ται*.

According to rule, *σ* before *μ* should disappear. It does so in *εἰ-μί* for *ἐσ-μι*, *εἶ-μα* for *ἑσ-μα*, *ἧ-μαι* for *ἡσ-μαι*. But sometimes this *σ* has been restored before the *μ*, to make the word resemble other forms of the same tense which have *σ*, e.g. *εἰμέν* has passed into *ἐσμέν* like *ἐστέ*, *ἐζω-μενος* (cf. *ζῶ-μα*) into *ἐζωσ-μένος* to make it like *ἔζωσ-ται*, and similarly in many other instances.

Mutes and

3. Mutes combine with semivowels in the following ways.

Original Greek -τι changes into -σι in δίδω-σι, λέγου-σι, πλού-σιος, λύ-σις, except after σ as in ἔσ-τι, πίσ-τις, πύσ-τις. Semi-vowels.

κι̯, χι̯, τι̯ pass to σσ, Attic ττ.

κι̯ in ἧσσων = ἡκ-ι̯ων, cf. ἥκ-ιστα.
λεύσ-σω = λευκ-ι̯ω, cf. λευκ-ός.
χι̯ in γλῶσσα = γλωχ-ι̯α, cf. γλωχ-ίς.
βράσσων = βραχ-ι̯ων, cf. βραχ-ύς.
γχι̯ in ἆσσον = ἀγχ-ι̯ον, cf. ἄγχ-ι.
ἐλάσσων = ἐλαγχ-ι̯ων, cf. ἐλέγχ-ιστος.
τι̯ in χαρίεσσα = χαριετ-ι̯α, cf. χαρίεντ-ος.
μέλισσα = μελιτ-ι̯α, cf. μέλιτ-ος.
θι̯ in κορύσσω = κορυθ-ι̯ω, cf. κόρυθ-ες.

The Attic ττ seems to be of subsequent origin to σσ, for in some cases, e. g. λύσσα (madness), the σσ can be proved from Sanskrit to come from the original language. The sound of ττ was probably spirant in its nature, as we may see from 'Ατθίς beside 'Αττική.

δι̯ and γι̯ pass to ζ, as in

Ζεύς = Δι̯ευς, Sanskrit *dyāús*, Lat. *dies*.
χάλαζα = χαλαδ-ι̯α, Lat. *grando*.
μείζων, Ion. μέζων = μεγ-ι̯ων, cf. μέγ-ιστος.
φύζα = φυγ-ι̯α, cf. ἔ-φυγ-ον.

4. Other phenomena which occur in the combination of sounds in words in Greek are *Prothesis*, *Epenthesis*, *Dissimilation*, and very rarely *Metathesis*.

Prothesis is the name given to the appearance of an indeterminate vowel at the beginning of a word. This vowel appears as α, ε or ο, principally before liquids and nasals. Prothesis.

Before ρ, as, for instance, in ἐ-ρυθρός, Lat. *ruber*.
Before λ in ἀ-λείφω, beside λίπ-α and in ἐ-λαχύς, Lat. *levis*.
Before μ in ἀ-μύνω, Lat. *munio*.
Before ϝ in ἐ-είκοσι for ἐϝεικοσι, Lat. *viginti*; ἀ-υξάνω, Epic ἀ-έξω for ἀϝεξω, Lat. *veg-eo*.

Epenthesis occurs where the semivowel ι̯ influences a preceding syllable ending in ν, μ, ρ, σ or ϝ. The semivowel ι̯ disappears, and an ι is developed in the preceding syllable, which is thus made more palatal in sound. Epenthesis.

φαν-ιω passes to φαίνω; ἀκν-ιον to αἶκνον; δεσποτν-ια to δέσποινα.

And similarly with μέλαινα, σώτειρα, μοῖρα, and others.

In κρείσσων, μείζων there is no Epenthesis as we can see from the Ionic forms κρέσσων, μέζων. The ει of κρείσσων and μείζων has been introduced rather on the analogy of such comparatives as χείρων.

Dissimilation. *Dissimilation* is most common with aspirates, as e. g. in

τίθημι for θιθημι; ἐπύθετο for ἐφυθετο; ἔταφον for ἐθαφον.

The aspirates are changed because of the Greek rule which permitted of only one aspirate in a word (p. 63).

Metathesis. *Metathesis* is very rare. The consonants appear to change their places in τίκ-τω for τι-τκ-τω, and in σκέπ-τομαι as compared with Latin *spec-io.*

Consonantal Combinations in Latin.

The only initial combinations allowed in Latin are those of a spirant followed by a mute, two spirants, and a mute and semivowel. In any other combination one or more letters are dropped.

Thus a comparison of *sternuo* with πτάρνυμαι shews that the original stem was *psternu-*, and *tilia* seems to correspond to πτελέα.

Loss of *s*. 1. In many cases a stem beginning with *s* followed by a mute appears both with and without the sibilant in different forms. Thus

tego, στέγω—tibia, στείβω—cutis, κύτος—scūtum, σκῦτος—torus, στορέννυμι—parcus, σπαρνός.

It is suggested that originally the *s* was only lost when the preceding word ended with a mute, so that the block of consonants thus coming together would have been unpronounceable. The same principle may underlie the loss of a final *s* so common in Latin poetry up to the time of Cicero. If *quiescit* stands, as seems probable, for *squiescit*, '*confectus quiescit*' would naturally become *confectu' quiescit*, as it does in the well-known line of Ennius: '*nunc senio confectu' quiescit.*'

2. Initial *su̯* sometimes passes into *s*, probably again only in the first instance when the final preceding consonant made it necessary. **Initial *su̯*.**

suavis, suadeo, Greek (σϝ)ἀδύς—suēsco, Greek ἦθος.

But

serenus, Greek σέλας (σϝελας)—se, Greek ἕ for σϝέ.

3. An original dental, hard, soft, or aspirated, followed by *t*, becomes *ss*, which after a long vowel is written *s*. **Double Dentals.**

This is the explanation of the past participles in *-sus*, the original termination being, as in Greek, *-tus*.

Hence, *mĭt-tus* passes to *mĭssus*; *scĭd-tus* to *scĭssus*; *jŭdh-tus* to *jŭssus*, but *vīd-tus* to *vīsus*; *caed-tus* to *caesus*; *vicent-timus* to *vicēnsimus vicēsimus*.

lap-sus, etc., instead of *lap-tus*, is the result of analogy.

The same combinations before *r* become *str*, e.g.

rod-trum passes to *rostrum*; *tond-trix* to *tonstrix*; *pedet-tris* to *pedestris*.

4. Medial combinations of mutes of a different character either assimilate, as mostly in composition, or one is dropped and the preceding vowel lengthened, as in *fībula* (*figo*), *postīcus* (*postid-ea*), etc. But little is as yet certain on this subject. **Medial Mutes.**

5. Medial combinations of spirants before a soft mute or voiced consonant lose the spirant; the preceding vowel, if accented, is long; if unaccented, is short. **Medial Spirants.**

ísdem passes to *ídem*; *aúsdire* (cf. *auris*) to *aúdire*. But *sátisne* passes to *sátĭn*; *vídesmus* (Sk. *avedisma*) to *vídimus*.

6. Initial *di̯* becomes *j*, at any rate in *Jupiter*, Sk. *Dyāus*. **Mutes and Semi-vowels.**

Initial *du̯* becomes *b* in *bellum*, *bis*.

Initial *sm*, *sn* lose the *s*, as σν does always and σμ sometimes in Greek.

mica, μικρός, σμικρός; *nix*, Engl. *snow*; *mordere*, σμερδ-νός, Engl. *smart*.

-sr- medially becomes *-br-*, as in *funeb-ris* (*funes-*), *consobrinus* (*con-sosr-inus*, from the stem of *soror*), etc.

stl- becomes apparently successively *scl-*, *sl-*, and *l-*. The spellings *stlis*, *sclis*, and *lis* are all found.

A mute before a semi-vowel in the middle of a word is lost, and the preceding vowel lengthened.

pīla for *pig-la* (*pingo*); *contāminare*, cf. *ta-n-go*; *jūmentum*, cf. *jŭgum*.

sl, *sn* lose the sibilant, and the preceding vowel is long, if accented.

pōne for *posne*, cf. *pos-t*; *querella* for *queré-sla*, but *querĭ-mónia*; *culina* for *coc-slína*.

-*tn*-, -*dn*- become -*nd*-.

pando for *pat-no*, cf. *pateo*; *mendax* for *ment-nax*, cf. *ment-ior*; *amandus* for *amant-nus*.

r and *l* assimilate a following spirant.

ferre for *fer-se*; *verrere*, cf. ἀπο-ϝερσ-η; *velle* for *vel-se*.

A mute or spirant between two semivowels is lost.

urna for *urcna* (*urceus*); *cernuus* for *cersnuus* (cf. ἐγ-κάρσ-ιος).

7. The admissible combinations of final consonants will be found in any grammar, and to this we must refer for a list of the more obvious phenomena of assimilation, etc.

One or two other phenomena may be classified here.

Dissimilation. The dislike to more than one liquid of the same kind in a word is common both to Latin and Greek. In Greek we have δρύφακτος for δρυφρακτος, ἀργαλέος from ἄλγος, ἐλπωρή but φειδωλή.

In Latin the suffixes -*alis*, -*culum* alternate with the suffixes -*aris*, -*crum*, according as the preceding syllables contain *r* or *l*. Thus

exemplaris, *altaria*, *salutaris*, but *fatalis*, *venalis*, etc.
involu-crum, *simula-crum*, but *pulcer*, *ridiculus*, etc.

Cf. also *Parilia* from *Pales*, and the complete loss of the liquid in *praestigiae* (*stringo*).

Where two similar syllables follow one another, one tends to be lost both in Greek and Latin. Thus

ἀμ(φι)φορεύς, κέν(τη)τωρ, Παλα(μο)μήδης,
tru(*ci*)*cidare*, *vene*(*ni*)*ficium*, *nutri*(*tri*)*cis*, etc.

CHAPTER VII.

Vowel-gradation and Accent.

Vowel-gradation or Ablaut is the general name for all differences of quantity, quality, and accent of the vowels in any syllable of a root or suffix, which are due to distinctions existing already in the primitive Indo-European language. The meaning of Vowel-gradation.

By a root we understand that element of unity containing the main meaning which is found common to a group of related words, when we have analysed them into their different parts. For instance, the common element or root of ἀκ-ωκ-ή, ἄκ-ρος, ἄξων, *acus*, *acer*, *axis*, is √*ak*, which contains the general idea of 'sharpness.'

When and under what circumstances, if ever, roots were used as words we cannot determine. The derived languages are, as the parent speech was, inflexional, and roots are not found existing as separate words, but are only obtained by abstracting that element which is common to a group of words related to one another.

Now upon what principle are we to find common elements in groups of words, both for the original as well as for derived languages? For instance in the Greek language, if we take the groups βάλλειν, βολή, βέλος, βαλεῖν—στέλλω, στολή, σταλῆναι, we shall find that the roots usually given in dictionaries and grammars are √βαλ and √στελ. Now √βαλ and √στελ are bases of the present stem and do not explain the Theory of Roots.

βολ-, βελ- or *στολ-, σταλ-* of other tenses. How are we to find a single root which shall be common to all the parts of *βάλλω* and *στέλλω* and their derivatives? Or, again, in the case of *γόν-ος, γέν-ος, γί-γν-ομαι, γέ-γα-μεν,* what is the element of unity common to them all?

Strong and Weak Roots.

It does not seem possible always to discover a single root or unity for a group of words. Roots present themselves under two main forms, the *Full* or *Strong*, and the *Reduced* or *Weak*. The full form is distinguished by having the vowels *e* or *o*, as e.g. in *λείπ-ω, λέ-λοιπ-α,* or by having a long vowel, as e.g. in *ἔρ-ρωγ-α.* The weak is distinguished by the absence of *e* or *o*, as e.g. in *ἔ-λιπ-ον,* or by having a short vowel, as e.g. in *ἐρ-ρᾰ́γ-ην, ἔ-λᾰθ-ον.*

Classification of Roots.

The best way of classifying roots is to divide them into the following classes:

I. Roots which end in a semivowel (*i, u, m, n, r, l*).

II. Roots containing a semivowel followed by a consonant.

III. Roots not containing a semivowel, and ending in a consonant.

IV. Such roots as *θη, στᾱ, δω* in Greek, which do not fall under any of the other three heads.

All the roots which can be classed under one of the first three heads contain, or once contained, in some forms the vowels *e* or *o*, and are then said to be strong or full roots. In other forms these vowels have disappeared, and the roots are then called weak or reduced.

For instance, under class I will come the roots of the verb *γί-γν-ομαι,* viz. √*γεν* as in *γέν-ος,* √*γον* as in *γόν-ος,* √*γν* as in *γί-γν-ομαι,* and √*γα* as in *γέ-γα-μεν.* Of these, √*γεν* and √*γον* are strong, √*γν* and √*γα* are weak. The only difference between √*γν* and √*γα* is, of course, that *γν-* appears before a vowel, while *γα-* (which is for *γn̥*) appears before a consonant, the *a* representing the nasal sonant.

Under class II will come the roots of such a verb as

λείπ-ω, viz. √*λειπ*, √*λοιπ*, which are strong, and √*λιπ*, which is weak. Another instance is *δέρκ-ομαι*, with its strong √*δερκ* and √*δορκ*, and its weak √*δρακ* which stands for √*δr̥κ*.

Class III is represented by the strong √*πετ* and √*ποτ* of *πέτ-ομαι* and *πότ-μος*, while the weak √*πτ* appears in *ἐ-πτ-όμην*.

It must be remembered that in the first two classes of the above, the sounds *r*, *l*, *m*, *n* stand on the same footing as *i* and *u*. They are semivowels, that is, consonants before vowels and sonant before consonants (p. 22).

Strong and weak Roots.

The variation between the full and the weak roots was originally accompanied by a change of accentuation. Where the accent rested on the root-syllable there was a full root, as in *πείθ-ων*: where the accent did not rest on the root-syllable there was a weak root, as in *πιθ-ών*. There are only a few instances in Greek, because the system of accentuation has altered from the original accentuation of the parent language. For instance, *οἶδ-α* has a full root in the singular, but a weak root in the plural *ἴδ-μεν*. Now according to the original accentuation we should have *οἶδ-α*, **ἰδ-μέν* (p. 137).

We must give up the idea of finding one single form of the root for all words which are related to one another. In *λείπ-ω*, *λέ-λοιπ-α*, *ἔ-λιπ-ον* there are three roots, and, so far as we know, always have been. We do not know why *λειπ-* differs from *λοιπ-*, the other strong root; we only know that it does so. Of *λιπ-*, the weak form, we know that originally the chief accent of the word did not rest upon it.

Some words have only two roots, one strong, one weak, as for instance in *ἵ-στη-μι* the strong root is *στᾱ-*, the weak *στᾰ-* as in *ἵ-στᾰ-μεν*.

In the same way we have

τί-θη-μι, *τί-θε-μεν*.
δί-δω-μι, *δί-δο-μεν*.

The difference between strong and weak lies in the quan-

tity of the vowel. As in the previous cases, the strong root originally bore the accent, the weak did not.

The Gradations of vowels in roots are classified in six series according to the vowel which is shown in the second, or, as it is called, *Middle* degree. We thus get the six series of *ē*, *ā*, *ō*, *ĕ*, *ă*, *ŏ*. In each series there may be three degrees, but they are not always found.

I. The *ē*-series.

The degrees of the *ē*-series are as follows:—

	Degree I.	Degree II.	Degree III.
I.-E.	*ō*	*ē*	*ə*.
Greek	ω	η	ε or ᾰ.
Latin	*ō*	*ē*	*ă*.

√*dhē*		τί-θη-μι	τί-θε-μεν.
		θή-σω	ἕ-θε-μεν.
		ἀνά-θη-μα	τί-θε-μαι.

Degree I of the root appears in the English *doom*, Anglo-Saxon *dóm*. The third degree of this series appears often as ε in Greek but in Latin as *a*. Both ε and *a* represent the I.-E. *ə*, and it is possible that in such a form as θε-τός the quality of the vowel has been assimilated to the η of the second degree, e. g. in τί-θη-μι.

√*sē*	ἀφ-έ-ωκα	ἀφ-ί-η-μι	ἀφ-ί-ε-μεν.
	ἀνέ-ω-νται	ἥ-σω, ἧ-κε	ἵ-ε-μαι.
Lat.		sē-vi	să-tus.
		sē-men.	
Engl.		*seed.*	
√*dē*		ἔ-δη-σε	δέ-δε-μαι.
		δέ-δη-κα	δέ-σις.
√*mē*		mē-tior	μέ-τρον.
√*ēgh*		ἠ-μί (for ἠχ-μί)	aio (for ăh-i̯o).
		ἦ-ν, ἦ (for ἠκτ).	
√*vrēg*	ἔρρωγ-ε	ῥήγ-νυμι	ἐρράγ-ην, ῥᾰγ-άς.
	ῥωγ-αλέος	ῥήξω.	
√ἀρηγ	ἀρω-γή	ἀρήγ-ειν.	
	ἀρωγ-ός	ἀρήξειν.	
√(*s*)*lēg*		λήγ-ειν	λᾰγ-αρός.
		λήξω	λᾰγ-ών.
		ἄλ-ληκ-τος	laxus (Engl. *slack*).
√*rē*		rē-ri	ră-tus. / ră-tio.

The degrees of the *ā*-series are as follows:— II. The *ā*-series.

	I.	II.	III.
Indo-European	*ō*	*ā*	*ə*.
Greek	ω	ᾱ (η)	ᾰ.
Latin	*ō*	*ā*	*ă*.

√*sthā*		ἵ-στη-μι	ἵ-στα-μαι.
		στή-σω	ἕ-στα-μεν.
		stā-re	stă-tus.
		stā-tor	stă-tim.

English *stool* (cf. στήλη) may be either first or second degree.
English *stand* seems to be of the third degree.

√*bhā*	φωνή	φη-μί	φα-μέν.
		ἔ-φη	ἔ-φα-σκε.
		fā-ri	fă-teor.
√*gā* or *gm̥̄*.	βω-μός	ἔ-βη	βι-βά-ζω.
		βέ-βη-κε	βί-βα-σις.
√*plāg*		πληγ-ή	ἐξε-πλάγ-ησαν.
		plāg-a	plango (for *plăg-no*).
√*sār*	σωρ-ός	σε-σᾱρ-ώς	σε-σάρ-υῖα.
√λᾱθ		λήθ-ει	ἔ-λαθ-ε.
		λήσει	λάθ-ετο.
√τᾱκ		τήκ-ω	ἐ-τάκ-ην.
√*pāg*		πήγ-νυμι	ἐ-πάγ-ην.
		pāx	păc-iscor.

The degrees of the *ō*-series are as follows:— III. The *ō*-series.

	I.	II.	III.
Indo-European	*ō*	*ō*	*ə*.
Greek	ω	ω	ο.
Latin	*ō*	*ō*	*ă*.

It will be noticed that here the two first degrees everywhere coincide.

	I or II.	III.
√*dō*	δί-δω-μι	δί-δο-μεν.
	δώ-σω	ἔ-δο-μεν.
	dō-num	dă-nunt.
	dō-nare	dă-tus.

In Greek we find *o* in the third degree answering to Latin *a*, just as, in the *ē*-series, ε in Greek answers to *a* in Latin. The quality of the vowel has probably been assimilated to that of the ω of the first and

second degrees, and instead of the α which we find in δᾰ-νείζω answering to Lat. *dătus*, we have ο as in δο-τός.

√*g̑ō*	βω-τιάνειρα	βό-σκει.
	συ-βώ-της	πουλυ-βό-τειρα.

The α of the third degree is found in { πρό-βᾰ-τον. πρό-βᾰ-σις.

√*pō* (drink),	πώ-νω (Aeol.)	πο-τόν.
	πέ-πω-κα	πέ-πο-ται.
	pō-tor	πό-σις.
	pō-culum	πο-τήριον.

The root of πί-νω, πί-ομαι, etc., presupposes a strong √*poi̯*, of which the reduced form is √*pi*.

√*pō* (guard)	πῶ-υ	πο-ιμήν.
	πῶ-μα	πο-ίμνη.
√*kō*	cōs, κῶ-νος	că-tus.
√ τρωγ	τρώγ-ω	ἔ-τρᾰγ-ον.
	τέ-τρωκ-ται.	τρᾰγ-ημα.

IV. The *ĕ*-series.

The short *ĕ*-series is by far the most common of all:—

	I.	II.	III.
Indo-European	*ŏ*	*ĕ*	No vowel[1].
Greek	ο	ε	"
Latin	*ŏ*	*ĕ*	"
	ὄχ-ος	ἔχ-ω	σχ-εῖν.
	τόκ-ος	ἔ-τεκ-ον	τίκτω (= τί-τκ-ω).
	πότ-μος	πέτ-ομαι	πί-πτ-ω.
	ῥόϝ-ος (√σροϝ)	ῥέϝ-ω (√σρεϝ)	ἐρρύην (= ἐ-σρυϝ-ην).
	χοϝ-ή	χέϝ-ω	κέ-χυ-ται.
	δέ-δορκ-ε	δέρκ-ομαι	ἔ-δρακ-ον.
	ἀγορ-ά	ἀ-γέρ-οντο	ἀγρ-όμενος.
	δορ-ά	δέρ-ω	δε-δαρ-μένος.
	τρόπ-ος	τρέπ-ω	τραπ-έσθαι.
	φθόρ-ος	φθερ-ῶ	φθαρ-ῆναι.
	βολ-ή	βέλ-ος	βαλ-εῖν.
	κλοπ-ή	κλέπ-τω	κλαπ-έντες.
	στόλ-ος	στελ-ῶ	ἔ-σταλ-μαι.
	γόν-ος	γέν-ος	γί-γν-ομαι.
	μον-ή	μέν-ω	μί-μν-ω.
	τόν-ος	τεν-ῶ	τέ-τα-ται.
	λοιπ-ός	λείπ-ω	ἔ-λιπ-ον.
	οἶδ-ε	εἴδ-ομαι	ἴδ-μεν.

[1] In the third degree of this and the following series 'no vowel' implies that there is no original true vowel. Where α appears it represents a nasal or liquid sonant.

Latin instances are rarer.

tŏg-a	tĕg-o.
mŏn-eo	men-s.
nŏc-eo	nex.

V. The ă-series.

The short ă-series:—

	I.	II.	III.
Indo-European	ā	ă	No vowel.
Greek	ā	ă	,,
Latin	ā	ă	,,
√*ag*	κυν-āγός	ἄγ-ω, ἤγ-αγ-ον	ὄ-γμος (ὀ-γ-μος), where *o* is a prothetic vowel.
	amb-āg-es	ἀγ-ρός.	
	ex-ā(g)-men	ăg-o, ăg-er.	
√*dau*	δέδηε (δε-δηϝ-ε)	δε-δαυ-μένος	δύ-η (δυϝ-η).
		δα-ίω (δαϝ-ιω).	
	μῆκ-ος, μήκ-ιστος	μακ-ρός.	
	ἠώς (ἠϝ-ως)	αὔ-ριον.	
	κῆϝ-αι	καίω (καϝ-ιω), καύ-σω,	
	clāv-is, κλᾱ-ίς	clău-do.	

VI. The ŏ-series.

The short ŏ-series is as follows:—

	I.	II.	III.
Indo-European	ō	ŏ	No vowel.
Greek	ω	ο	,,
Latin	ō	ŏ	,,
√*oq*	ὄπ-ωπ-α	ὄψεται.	
	ὤψ, βο-ῶπ-ις	ὄψις, ὀπ-τήρ.	
		ŏc-ulus.	
√*od* (hate)	ōd-i, exōsus	ŏd-ium.	
√*od* (smell)	ὄδ-ωδ-ε, ὀδ-ωδ-ή	ὄζει, ὀδ-μή.	
	εὐ-ώδ-ης	ŏl-ere. ŏl-idus, ŏd or.	
√*or*	ὄρ-ωρ-ε	ὄρ-σο, ὄρ-μενος.	
		ὄρ-νυται.	
		ŏr-itur, or-tus, ŏr-igo.	
√*vor*	ὤρ-α	ὀρ-ονται, οὖρος, ὀρ-άω.	
	πρω-ί	πρό, πρό-μος	πρ-ίν.
		prō (lengthened as a monosyllable).	
	fōd-i	fŏdere, fossus, fossa.	
		lŏquor, lŏc-utus	ἔλακον, λε-λακ-υῖα.
	ὄλ-ωλ-ε	ὀλ-εῖται, οὐλόμενος.	

G

Irregularities of gradation.

The regular variations which we have given in the above six series cannot be found in all roots. For instance √*plē*, as in πίμ-πλη-μι, *plē-nus*, does not vary.

The true series is sometimes lost. For instance, χανδάνω really belongs to the ĕ-series, as we see from the fut. χείσομαι which is for χενδ-σομαι. The word χανδ-άνω really contains a nasal sonant, χṇδ-ανω, but the α was regarded as original, and hence we have χανδάνω, κέ-χανδ-α. Again πάσχω (παθσκω), ἔ-παθ-ον, πάθ-ος seem to belong to the ă-series, but πένθ-ος, πείσομαι (πενθ-σομαι) and πέ-πονθ-α point to an ĕ-series.

Sometimes in an ĕ-series we find ω as for instance in:—

κλώψ	κλοπ-ή	κλέπ-τω	ἐ-κλάπ-ην.
σκώψ	σκοπ-έω	σκέπ-τομαι.	
φώρ, für	φόρ-ος	φέρ-ω.	
δῶ, δῶμ-α	δόμ-ος	δέμ-ω.	
νωμάω	νόμ-ος	νέμ-ο-μαι.	

Other variations from the rule might be found, but they are not numerous or important. The great majority of instances of variation in the vowels of roots can be grouped under one or other of the six series of gradations which we have given.

Accent.

Accent.

The importance of accent in the history of language has only recently been recognised. A few years ago it was a grammatical fact, without any further significance, that ποδός was oxytone but πόδα paroxytone. We have however seen in this chapter that vowel variation is closely connected with accent, and we shall see subsequently that accent is of great importance in the inflexion of nouns and verbs.

Exspiratory and Musical.

Accent is either *exspiratory*, depending on the greater or less stress laid on the accented syllable, or *musical*, depending on the pitch or tone at which the syllable is pronounced. No language is wholly accented in either way,

and a stressed syllable tends to be also pronounced in a higher key. But the connexion between these two kinds of accents, and the relation in which they stand to the quantity of a syllable is too obscure a subject to be discussed here.

The most striking illustration of the importance of accent in language is that great discovery known from its author's name as Verner's law, which is only second in importance to the law that it supplements, which goes by the name of Grimm's law.

Grimm's law is a statement of the relations which exist between the mute consonants in three groups of languages—the Sanskrit, Greek, and Latin, the Low German and the High German. The law is usually stated as follows: *Where Sanskrit, Greek, and Latin shew Hard Mutes, Low German shews the corresponding Spirants or Fricatives, High German the corresponding Soft Mutes; where the first group shews Soft Mutes, the second shews Hard and the third Spirants or Fricatives; where the first shews Aspirates, the second shews Soft, the third Hard Mutes.* Grimm's law.

Into the details of this law it is not necessary to go, as it has nothing to do with the subject of this book. But we may notice that it is complicated by the fact that the German languages have no aspirated consonants and substitute for them the corresponding spirants (*h*, *th*, *f*), and that in the labial series considerable confusion has taken place between *p*, *b* and *f*.

Verner's extension of this law is almost equally important with Grimm's original discovery. The numerous exceptions to Grimm's law which had been observed, Verner explained by the following modification—that Grimm's law is true of initial mutes and those that occur in an originally accented syllable; but that in a syllable originally unaccented the hard mutes of Sanskrit, Greek and Latin are represented by the corresponding soft mutes in Low German, e. g. Anglo-Saxon and English. For the purposes of this law, conso- Verner's law.

nants are considered to be in the same syllable as the preceding vowel.

Thus in unaccented syllables we find—

Sanskrit.	Greek.	Latin.	English.
çatám	ἑ-κατ-όν	cent-um	hund-red.
tṛt-íya	τρίτ-ος (for *τριτός)	tert-ius	third.
sap-tá	ἑπ-τά	sep-tem	seven (orig. Germ. *sebun*).
	-τός (of past part.)	-tus	-d.
	δώδεκα	duodecim	twen-ty (A.-S. *-tig*).

But in accented syllables—

	δέκ-α	dec-em	ten (orig. Germ. *tehun*).
		lént-us	lithe.

These instances will be sufficient to shew the importance of Verner's law, and to illustrate the part played by accent in the history of a language.

Sentence accent.

We may now go back to speak about accent generally. In ordinary language accent is only spoken of in relation to individual words. One syllable in a word bears the main accent, and according as that accent is placed, so does the meaning of the word vary. *Cónvert* is a substantive, *convért* is a verb; *τρόχος* means one thing, *τροχός* another. But the same is true with sentences. For example in '*Give me that book*,' we may shift the accent from one word to another and the meaning of the sentence will vary according as it rests here or there. This sentence-accent plays a highly important part in Greek. For example, an oxytone word changes its accent from acute to grave, that is, loses its accent altogether, in the middle of a sentence. Again enclitics and interrogatives are differently accented according to their meaning; *τίς* does not differ from *τις* except as regards its function in the sentence; the word is the same, but the difference of function is accompanied by a difference of accent. In particular we have the cases of the accent of enclitics and proclitics and of the accentuation of preposi-

tions in anastrophe. Ζεύς ἐστι only differs from Ζεὺς ἔστι in the meaning of the words in the sentence; considered separately the words are identical. Similarly θεὸς ὣς and ὡς θεός, παρὰ θεοῦ and θεοῦ πάρα are phrases consisting of precisely the same words.

Enough has been said to shew that in any inquiry into the question of accent we must take account not merely of syllabic but also of sentence-accent. We can now go on to consider the phenomena of accent as they are presented to us in the Greek language. The system we find in Greek or any other Indo-European language is developed from the system that prevailed in the original language, as is proved by Verner's law; the development is in accordance with strict phonetic law, and any apparent irregularity must be explained by the action of analogy.

The law of three syllables in Greek.

Now the system of accentuation presented to us by Greek is governed by the law of three syllables. By this law the acute accent may not recede farther from the end of a word than the antepenultimate, or, in cases where the last syllable is long, than the penultimate syllable. In technical language, the recessive accent, i.e. the accent which does not fall on the last syllable, is limited to three syllables or three *morae*, a *mora* being the quantity of a short vowel, and a long vowel being equivalent to two *morae*. To this law, which is otherwise universal, there are two cases of apparent exception.

(1) In the case of words with a trochaic ending the acute accent may fall on the fourth *mora* from the end, e.g. in ἄζωστος, ἤπειρος. This exception at present remains unexplained, but it is to be noticed that some of the words which are included in it were originally accented according to the ordinary rule. Thus τροπαῖον has the older, τρόπαιον the later accent, in Homer we have ἀχρεῖος, in Attic ἄχρειος, etc.

(2) In the case of spondaic words like κῆπου, the accent falls on the second *mora* of the first syllable (κεέπου), and so the exception is only apparent.

The free accent in Sanskrit.

The law of the three syllables, or more strictly of the three *morae*, is therefore practically of universal application in Greek. If we now turn to Sanskrit, we find a very different system in operation. The accent is not confined within the narrow limits which restrict it in Greek and indeed in Latin, but is '*free*,' that is, it may fall upon any syllable in a word; and its actual position is determined not by the quantity of the final syllable (as in Greek), nor by that of the penultimate syllable (as in Latin), but solely by the inflexion of the word and its function in the sentence. No more striking instance of the difference of the two systems can be given than by the case of the finite verb, which in Sanskrit is unaccented, except when it appears in dependent clauses or at the beginning of a sentence.

Now from a variety of considerations, but chiefly from Verner's law, it is certain that Sanskrit represents tolerably faithfully the accentuation of the original Indo-European language. How then does it come about that the system which we find prevailing in Greek is so totally different?

It is obvious that there are some words in Greek which exhibit the original 'free' accent. The accent of πέντε, ὀκτώ, πούς, ποδός is the same as that of the corresponding Sanskrit words *páñca*, *aṣṭā́*, *pā́t*, *padás*. But the accent of ἐβούλευον, ἐβουλεύετε represents a new principle, which has nothing corresponding to it in Sanskrit and conforms to the law of the three *morae*.

Enclisis.

There are some words in Greek which under certain circumstances take no accent of their own, but 'throw it back,' as the expression is, upon the preceding word. But the accent in enclisis, like the ordinary accent, is limited by the law of the three *morae*; that is to say, the enclitic word is considered as part of the preceding word, and the whole combination is then accented in accordance with the law of three syllables. Ζεύς μοι is accented like κήπου, καλός ἐστι like ἄζωστος. But where the enclitic word contains more than three

morae, complete enclisis is impossible, and the accent then goes as far back as the law of three *morae* permits. If ἡμῖν, for example, becomes enclitic, as Ζεύς ἡμῖν is impossible, we get the nearest approach to it that the laws of accentuation will allow and write Ζεὺς ἧμῖν. ἧμιν may then be called a quasi-enclitic.

But just as Ζεὺς ἧμιν is the enclitic form of Ζεὺς ἡμῖν, where complete enclisis is impossible, so Ζεὺς δοίη is the enclitic form of Ζεὺς δοιῄ (Sanskrit *deyā́t*). Only the distinction between the enclitic verb in principal and the non-enclitic (orthotone) verb in dependent clauses, which is observed in Sanskrit, is lost in Greek, and here the verb is uniformly enclitic, or rather quasi-enclitic.

A strong confirmation of the theory here given is the fact that the only purely enclitic verb-forms in Greek, the present indicative of εἰμί and φημί, are the only forms that nowhere exceed two syllables and three *morae*. λέγω might have been àccented like τινῶν, λέγε like τινί, but this was not possible with λέγομεν, λέγετε, λέγουσι. Here, therefore, we have the action of analogy: the forms not capable of enclisis have necessarily taken the recessive accent as a substitute for enclisis, and have assimilated to themselves the remaining forms of their system. φημί, εἰμί, on the other hand, admit of complete enclisis throughout.

We can however hardly overlook the fact that the accent on φαμέν, ἐσμέν, and the plural forms generally, represents what we shall see later to be the historically correct accent in this number, just as ἔστι does that of the singular. Possibly therefore εἰμί and φημί became enclitic not so much from the number of syllables they contain, as from the purely enclitic meaning that they generally have. εἰμί is for the most part a mere copula, φημί is used like the colloquial English 'says I,' 'says he.' When however they are emphatic, ἔστι takes the historically correct accent, and so does φῆμι according to some grammarians. εἰμί is never accented on the first syllable; if it were, it would be indistinguishable from εἶμι.

Participles and Infinitives.

It must be remarked that participles and infinitives, not being finite verb-forms, were never enclitic and therefore keep the historic accent in Greek, cf. *bháran* φέρων, *ricán* λιπών, *ṛṇván* ὀρνύς, *babhūvān* πεφυώς. So with compounds, the finite verb-forms were enclitic, and threw the accent back, e.g. *sámbhara* σύμφερε, *ápi asti* ἔπεστι: the non-enclitic forms kept the historic accent, e.g. ὑπολαβών, καθῆσθαι, but κάθηται.

Accent of Nouns.

We see therefore that the Greek verb in its finite forms presents everywhere the recessive accent as a substitute for complete enclisis. From the verb in all probability this new system of accentuation extended itself to the noun, but only partially and irregularly, and even in varying degrees in different dialects. The Aeolic dialect, it is well known, uniformly employs the recessive accent, writing e.g. πόταμος for the Attic ποταμός. In this dialect accordingly the analogy of the verbal accent has been fully operative. In other dialects the question is more complicated, and the influence of analogy more partial. Certain types seem every where to have been preserved. Verbal adjectives in -τός, adjectives in -ρός and -ύς, strong aorist and perfect participles of the active are uniformly oxytone. On the other hand substantives in -τις are barytone in Greek, though apparently originally oxytone. Compound adjectives of the type μητροκτονος are paroxytone if they are active, proparoxytone if they are passive in sense. But except for some few generalisations of this kind it is impossible to say anything very definite. In particular the question of accentuation in enclisis proper presents great difficulties, though here again we may see the working of analogy, e.g. in τινων, which, though containing three *morae*, is completely enclitic on the analogy of τινες τινος, etc.

The shifting of the accent in certain vocatives is an interesting survival from the original language. In Sanskrit, vocatives where accented at all have the accent on the first

syllable;[1] and this principle is preserved in Ζεῦ (Ζεῦ) beside Ζεύς, πάτερ beside πατήρ, σῶτερ beside σωτήρ, μόχθηρε beside μοχθηρός, etc.

Accent of Prepositions.

The 'anastrophe' of prepositions seems simply a case of the survival of the original accent. The Sanskrit *ápi, úpa, ápa* indicate that ἔπι, ὕπο, ἄπο were originally paroxytone. This accent they naturally keep when used adverbially or added as an emphatic afterthought to bring out the meaning of a case. Coming before their case they are proclitics, and are strictly speaking not accented. As a matter of fact they are written with a grave accent on the last syllable, but according to the unanimous testimony of grammarians, a grave accent simply indicates an absence of the acute. Practically therefore σοφίας πέρι is identical in accent with θεὸς ὥς, περὶ σοφίας with ὡς θεός. There is certainly a tendency in Greek, however it may be explained, to write a grave accent on the last syllable of dissyllabic proclitics and enclitics—cf. τινός, τινί, ποθέν, ποτέ, etc.

Accent in Latin.

The Latin system of accentuation stands in strong contrast to the Greek. It is true that the law of three syllables is common to both languages; neither in Latin nor in Greek does the main accent recede further than the third syllable from the end of the word, but in all other respects the two systems are totally distinct. Their main differences are two:—

(i) In Latin the quantity of the penultimate syllable determines the accent, that of the final syllable being of no importance: in Greek the quantity of the final syllable determines the accent, that of the penult being of no importance.

(ii) Oxytonesis is unknown in Latin, except where a paroxytone word has lost its final syllable, as *audín* for *audísne*.

The law of Latin accentuation is simply this—that the main accent falls on the ante-penultimate syllable, except

when the penultimate is long, when it falls on that. It is plain that this is only a stringent application of the law of the three *morae*, which would seem at first sight to be of universal application in Latin. Nevertheless there are not wanting indications that the historic or free accent once obtained in Latin. The weakening of vowels in composition and reduplication, which is unknown to Greek, can only point to the accent having once rested on the reduplication or the prefix. *Conficio*, can only come from *cónfacio*, *tétigimus* from *tétagimus*; and that this is the original accent in composition can be seen from Sk. *ápi asti*, Gk. ἔπεστι. Again the suppression of vowels by syncope often points to an accent further than three syllables from the end. *súrpui* implies *súrripui*, *Samnium Sábinium*, *óptimus ópitumus*, etc.

Enclisis is of very common occurrence in Latin. *-ne*, *-ve*, *-que*, are enclitics, and are said by the grammarians to throw their accent back on the final syllable of the preceding word (*rosáque*). *es* and *est* are also frequently enclitic, and *sitúmst* corresponds to καλόν ἐστι. We have primitive enclitic pronouns and particles (often with corresponding forms in Greek) in *sí quis* (εἴ τις), *néque* (οὔτε), *hi-c*, *tuó-pte*, *mé-met*, *né-dum*, etc. Possibly the prepositions are enclitic in *quó-cum*, *parúm-per*, etc. And finally we may mention certain cases in which a whole phrase has only one accent, and the unaccented members of it may therefore be said to be enclitic, e. g. *profecto* (*pró facto*), *illico* (*ín loco*), *denuo* (*dé novo*), *igitur* (the enclitic form of *agitur*), first appearing in the Plautine phrase *quid igitur?* (*quíd agitur?*)

PART II.

WORD FORMS.

CHAPTER VIII.

Nominal Inflexion.

Hitherto we have considered the sounds of which words are composed. We have now to consider words themselves under the forms in which they appear in sentences. In Greek and Latin the relations in which words can stand to one another in a sentence are in the main expressed by changes in the form of a word. Such changes are called *Inflexions*, as for instance the cases of nominal declension and the parts of a verb in conjugation. Modern languages do not make use of inflexion to the same extent, but 'more slothfully employ prepositions and auxiliary verbs.' Where Greek and Latin use a single word, e.g. φιλεῖ, *amat*, χαμαί, *saxi*, English has to employ more words than one. Inflexions.

In any related group of words we find a common element, usually monosyllabic, which expresses the fundamental meaning of that group of words. Thus in γί-γν-ομαι, γέν-ος, γόν-ος, γέ-γα-μεν there is a common element which in its various forms is to be recognised as expressing the common radical meaning of these words. This is the *Root*. From the root is formed the *Stem* or *Theme*, i.e. the common element in Root and Stem.

declension or conjugation to which the various terminations are added.

Formation of Words. Words are formed either by (1) Composition or (2) Derivation.

Composition. (1) Composition implies the union of different stems, each of which keeps its separate meaning, into a single word. Compounds are divided into

(*a*) *Descriptives*, where the first member is an adjective or adverb describing the second, e.g. μεγαλό-πολι-ς, ἐπί-θετος, *meri-dies* (*medius dies*), *con-sul*, *free-man*.

(*b*) *Determinatives*, where the first member of the compound is syntactically dependent on the last. Thus in ποδ-ωκής, Διόσ-δοτος, *luci-fer*, *dooms-day*, the first member is equivalent to the oblique case of a noun. Sometimes the first member of the compound is verbal and governs the second, but this is peculiar to Greek as compared with Latin; e.g. ἀγέ-στρατο-ς (ἄγων στρατόν), δακέ-θυμος (δακὼν θυμόν), cf. English *pick-pocket*.

(*c*) *Possessives*, which imply the existence of a subject which possesses the qualities expressed by the compound, e.g. ἐννεά-πηχυ-ς, *angui-manu-s*, or with particles δύσ-φημος, *dis-cors*, etc.

Derivation. (2) By Derivation is understood the addition of different suffixes to a single root for the purpose of defining its meaning. These suffixes are (*a*) *Formative*, added on to the root to form a *Stem*, or (*b*) *Inflexional*, added on for the purpose of expressing grammatical relations. In the word ποι-μέν-ων we have the root ποι-, the formative suffix -μεν-, and the inflexional suffix -ων, which marks the genitive plural. The union of root and formative suffix makes up the stem of a word, to which are added the different inflexions expressing case, number, person, etc. Sometimes there is no distinction between root and stem, for instance in *fer-s*, ἐσ-μέν: in other instances, e.g. δο-τῆρ-ος, a formative suffix (in this word -τηρ-) has been added to √δο to form the stem δοτηρ-.

A Noun-stem is called *Primary* if a formative suffix is added directly to the verbal root, e.g. τί-μᾱ, and *Secondary* if it is added to another nominal stem, e.g. ἱππ-εύ-ς. Similarly a suffix added directly to the root is called *Primary*, the others *Secondary*.

Nature of Suffixes.

It is possible that all Greek and Latin suffixes were originally roots, and that Composition is the type of all formation of words. But whether this is so or not, suffixes as we find them, whether formative or inflexional, have lost their original meaning. They have no significance apart from their connexion with the words in which they occur. If they ever had an independent meaning of their own it was in a primitive period too remote for us to discuss.

Systems of Noun Inflexion.

In the original Indo-European language there were three systems of Noun inflexion.

Strong.

(1) The *Strong Inflexion*, where the syllable immediately before the case termination kept *e* or a long vowel in the strong cases, Nominative, Accusative, and Locative, while *e* was lost or the long vowel shortened in the weak cases, viz. Genitive, Dative, Instrumental, and Ablative. This change in the syllable before the case ending was accompanied by a shifting of accent. In the weak cases the accent was on the case termination, in the strong cases it was on the preceding syllable.

I.-E.		Sanskrit.	Greek.
Nom. *Di̯ḗu-s*	Strong	*Dyāú-s*	Ζεύ-ς.
Acc. *Di̯ḗu-m*	Strong	*dyā́-m*	Ζῆ-ν.
Gen. *Diu̯-ós*	Weak	*div-ás*	Διός (Διϝ-ος).

Weak.

(2) The *Weak Inflexion*, where the syllable preceding the case termination kept *e* of the stem, if the case termination began with a vowel, but lost the *e* if the case termination began with a consonant. Thus:

Nom. *su̯ādú-s*	ἡδύ-ς.
Acc. *su̯ādú-m*	ἡδύ-ν.
Gen. *su̯ādéu̯-os*	ἡδέ(ϝ)-ος.

This weak inflexion is found in the dual and plural of all nouns, whatever the stem.

A- and *O*- stems. (3) Nouns of the *A*- and *O*- declension (1st and 2nd) belong to neither strong nor weak inflexion. With them the accent does not change and the vowel before the termination is not lost; but we have an alternation in the final vowel of the stem between *o* and *e*, *ā* and *ă*, which to some extent corresponds to the vowel change in the Strong Inflexion.

Nom. *lógo-s*	λόγο-ς.
Acc. *lógo-m*	λόγο-ν.
Gen. *lógo-si̯o*	λόγο-ιο, λόγου.
Voc. *loge*	λόγε.

We can now see how these systems of inflexion apply to the different declensions.

Stems in *O*. *Stems in O* are characterised by a change of *o* to *e* in the vocative both in Greek and Latin.

ἵππο-	Voc. ἵππε.
domino-	,, *domine.*

As a rule *O*-stems are masculine or neuter.

Stems in *A*. *Stems in A* show a variation of the suffix vowel between *ā* and *ă* corresponding to that between *o* and *e* in *O*-stems; e.g. the vocatives νύμφᾰ, δέσποτᾰ answer to the vocatives οἶκε, λόγε. Nouns of this declension are mainly feminine, but some of them on the analogy of the *O*-declension have become masculine and take *s* as the termination of the nom. singular, e.g. νεανία-ς, Old Latin *paricida-s*. In Homer we find masculines of this declension without *s*, as e.g. νεφεληγέρετα, ἱππότα, which may originally have been vocatives. The Latin nominatives in -*ă* must come from an original -*ā*, as an original -*ă* unaccented would in Latin pass to -*ĕ*.

Greek feminines in -ια, e.g. πότν-ια, answer to Sanskrit feminines in -*ī*, e.g. *pátn-ī*. The corresponding Latin declension is the fifth in -*iē*.

Formative suffixes coming under the general head of the *O*- and *A*-declension are :—

-*u̯o*-, -*u̯ā*-, in *ἰκ-ϝος* (*ἴκκος*, *ἵππος*), *eq-uos*. *πολϝη* (*πολλή*).

-*mo*-, -*mā*- in *οἶ-μος*, *ἀκμή*, Lat. *fir-mus*, *an-i-mus*, etc.

-*no*-, -*nā*- in *θρό-νος*, *ποινή*, *τέκ-νον*, Latin *som-nus*, *do-num*, etc.

-*monā*-, -*mena*-, -*mno*-, -*mna*- in *θέ-μενος*, *χαρ-μονή*, *στρω-μνή*, *terminus*, *colu-mna*, *legi-mini*, etc.

-*lo*-, -*la*-, -*ro*-, -*ra*- in *σφοδ-ρό-ς*, *ἐσθ-λό-ς*, etc. And others beside.

Stems in I and U belong to the Weak Inflexion, but we must distinguish two systems of declension. Stems in *I* and *U*.

(1) Where the final vowel is *ī*, *ū* before a consonant and *ii̯*, *uu̯* before a vowel. Thus in Sanskrit we find nom. *bhī-s*, acc. *bhĭy-am*, and nom. *bhū-s*, acc. *bhŭv-am*. Hiatus was not allowed, and in Sanskrit, as in the original language, *ī* and *ū* before a vowel develop the corresponding semivowel. In Greek we find *κῖ-s*, *κĭ-ός* (= *κιι̯-ος*) and *ὀφρύ-s*, *ὀφρῦ-ος* (= *ὀφρυϝ-ος*).

(2) Where the final vowel is *i*, *u* before a consonant but *ei̯*, *eu̯* before a vowel. Thus *βάσῐ-ς* answers to Sk. *gáti-s*, and nom. plur. *βάσεις* (*βασει̯-ες*) to Sk. *gátay-as*; *ἡδύ-ς* answers to Sk. *svādú-s*, and *ἡδεῖς* (= *ἡδεϝ-ες*) to *svādáv-as*.

The declension of *πόλις* varies. In Homer it is declined like *κῖς*, viz. *πόλῑ-ς* (cf. *πολῑ́-της*), gen. *πόλῐ-ος* (= *πολιι̯-ος*), but in Attic *πόλῐ-ς*, *πόλεως* (= *πολει̯-ως*) like *βάσις*. A stem *πολη*- appears in Epic *πόληϊ*, *πόληος*, *πόληας*.

I-stems in Latin often lose all trace of their final vowel except in the gen. plural (e. g. *pars*, *parti-um*, cf. the neuters in -*al*, -*ar*, which are shewn to have been originally *I*-stems by the plurals *calcari-a*, etc.). We often find moreover a second suffix added, as in the case of the whole of the feminine abstract substantives in -*ti-on*-, which correspond to Greek forms in -*σι*-, -*τι*-. On the other hand some stems originally consonantal have become *I*-stems in Latin, e.g. the feminines in -*tāti*- corresponding to Greek nouns in -*τητ*-. An *i* has intruded itself universally in Latin before the

terminations of the dat. abl. plural of the 3rd declension, e.g. *ped-i-bus*.

U-stems usually undergo alteration in Latin. Some neuters in *-ū* may be originally duals, e.g. *cornu, genu, veru*, for an earlier *cornu-e*, etc. The neuter singular of such words, to judge by the Greek πολύ, ought to have had short *ŭ*. The adjectives in *-u* become in Latin *I*-stems, apparently through the influence of the feminine, e.g. *suavis*, Gk. ἡδύς, Sk. *svādús*, fem. *svādvī́*.

Diphthongal Stems.

Diphthongal Stems are to be found in the monosyllabic Ζεύ-ς, Sk. *dyā́u-s*, Lat. *Dies-piter*. The I.-E. strong stem was *Di̯ēu-*, the weak *Diu̯-*. Thus in Greek we have Ζεύ-ς (= Διηυ-ς) with the strong stem, and Δι-ός (= Διϝ-ος) with the weak. In the acc. Ζῆ-ν the semivowel *u̯* has disappeared as in Latin *diē-s*.

Βοῦς (=βωυ-ς), Sk. *gā́u-s*, shows the weak stem in gen. βο-ός (= βοϝ-ος). In ναῦς (= νᾱυ-ς) there is no clear trace of stem variation. In all these words the long vowel of the strong stem has been shortened in Greek before the semivowel (p. 66).

In Latin the diphthongal stems have often become *I*-stems, and we have *nāvi-s, Jovi-s*, answering to ναῦς, Ζεύς. In other cases the semivowel disappears before a consonant, according to a law which, except perhaps in final syllables, is universal in Latin, and we get *Diēs-piter, bōs, rēs* (for *rei̯s*, Sk. *rās*, gen. *rayás*), but it survives between vowels in *Jovis, bovis*.

Other diphthongal stems peculiar to Greek are to be found in βασιλεύ-ς (= βασιληυ-ς), ἱππεύ-ς, δρομεύ-ς, etc. In Homer the long vowel of the stem is shown in βασιλῆ-ος (=βασιληϝ-ος), βασιλῆα (= βασιληϝ-α). In Attic by transference of quantity we have βασιλέ-ως, βασιλέ-ᾱ.

Stems in -οι̯- seem to appear in πειθώ, voc. πειθοῖ, acc. πειθώ (= πειθο-α = πειθοι̯-α). Other instances are Λητώ, ἠχώ. The Ionic acc. Ἰοῦν for Ἰώ, however, shows *u̯* instead of *i̯*.

The stem of ἥρως seems to end in -ōu̯-, e.g. acc. ἥρω or ἥρωα (= ἡρωϝ-α).

Liquid Stems with 'Strong Inflexion' are found (1) in *nomina agentis*, such as δώτωρ, δοτήρ. **Liquid Stems.**

Thus

δώ-τωρ	Sk. *dā-tā.*
δώ-τορ-α	*dā-tār-am.*

In Epic we have acc. μήστωρα with the long ω of the nom.

Another variation of the suffix appears in σῶ-τερ, and a weak degree in ἰα-τρ-ός, which gives a series.

-τορ- -τερ- -τρ-.

The original declension of δώ-τωρ perhaps gave acc. δώ-τορ-α, and with shifting of accent and weakening of root the genitive δο-τέρ-ος. This variation of stem however was not maintained, but gave rise to the two systems δώτωρ, δώτορος and δοτήρ, δοτῆρος. The weak degree appears in some derivatives such as ψάλ-τρ-ια, ἰα-τρ-ός, while others shew the suffix -τερ- (δότειρα for δοτερ-ι̯α).

(2) In the *nouns of relationship* such as πα-τήρ, etc., where the stem variation is -τερ- in the strong cases, such as acc. πα-τέρ-α, and in the weak cases -τρ-, e.g. πα-τρ-ός, or with the liquid sonant -τρα-, e. g. πα-τr̥-σι, πατρά-σι.

In Latin, as we should expect, we find still greater uniformity than in Greek. The *nomina agentis* everywhere have the suffix *-tōr-* with the long vowel carried throughout the system, apparently on the analogy of the nominative. It is however to be noticed that whereas -τωρ in Greek is only added to strong stems, in Latin it appears as the suffix of weak stems (*dă-tor*).

Names of relationship in Latin have the suffixes *-ter* (in nom. sing.) and *-tr-* (in the oblique cases); and this latter appears also in feminine forms like *janitrices*. The name of relationship *soror* may be classed with *nomina agentis* for inflexional purposes.

We cannot overlook the fact, of which however no explanation has yet been offered, that words with the suffix -*τωρ* have the strong root but a paroxytone accent, while those in -*τηρ* have the weak root and an oxytone accent.

Nasal Stems.

Nasal Stems with 'strong inflexion' have four possible degrees of the suffix.

-*on*	-*en*	-*n*	-*n̥*
σῶ-φρον	*φρεν-ός*	*κυ-ν-ός*	*πρό-φρασσα*
			(= *προ-φρn̥-τι̯α*).

No stem shews all these degrees. For instance we do not find

acc. *ποι-μον-α*, loc. *ποι-μεν-ι*, gen. *ποι-μν-ος*, dat. pl. *ποι-μα-σι* (= *ποι-μn̥-σι*).

One or other of the degrees is used throughout, e.g. -*μεν*- in *ποι-μήν*, *ποι-μέν-ος*, and -*μν*- in the derivative *ποι-μν-ίον*, but -*ον* in *τέκτ-ων*, *τέκτ-ον-ος*, so that the distinction of strong and weak cases has been lost.

A weak stem appears in *κυ-ν*- of *κυ-ν-ός* as compared with *κυ-ον*- of *κυ-ών*, and in *ἀρν-ός* (=*r̥ν-ος*) as compared with *πολύ-ρρην*, which points to a declension, Nom. *ῥήν*, Acc. *ῥῆν-α*, Gen. *ἀρ-νός*.

Most often the weak stem is found only in derivatives, e.g. *ποι-μν-ίον*, *γειτ-ν-ία*, etc.

Various other suffixes are added on to nasal stems, e.g. -*to*- in *cogno-men-tum*. In Greek this suffix is added in *ὀνό-μα-τα*, but not in *ὄνο-μα*, Lat. *no-men*. The same suffix -*to* appears in *ἥπα-τος* (the stem of which is proved nasal by the Lat. *jecin-is*) and in *εἴδα-τος*, *πείρα-τος*, *οὔθα-τος*. The nominative of these words ends in -*ρ*, e.g. *ἧπαρ*, *εἶδαρ*, *οὖθαρ*, where *ρ* may be the remnant of an adjectival suffix -*ro* (cf. *ὕδωρ* beside *ὑδαρός*).

In Latin occasional instances of vowel variation in inflexion are found, e.g. *caro*(*n*) *carnis*, *homo*(*n*) *hominis* (of which the older type was *hemo*, *hemōnis*), and a very remarkable

alternation of two long vowels in *Anio, Aniēnis*. Mostly however some one vowel is preserved throughout, though cognate forms often shew different degrees of the suffix, e.g. *alimonium, alimentum, alumnus ; termo, termen, terminus*.

It is characteristic of Latin to employ certain suffixes to give definiteness to forms which might otherwise be obscure. Thus the neuters in *-men* are amplified by a suffix *-to* and we get *cognomentum* by the side of *cognomen*. The feminines similarly take a suffix *-c* (in *victri-x*) or *-a* (in *auror-a* as compared with ἠώς, Aeol. αὔως, which is an S-stem), to indicate their gender. From the neuter stems in *-os, -es* corresponding to the type γένος we get in Latin a group of masculines formed with long *o* carried throughout, and *decor, honos* stand beside *decus, hones-tus*. Similarly *termo* and *terminus* are only two different ways of forming a masculine from the original neuter *termen* (τέρμα).

Mute stems belong to the Strong Inflexion, but scarcely any traces of stem variation are left. For instance, in Sanskrit we find *bhắran*, acc. *bhắrantam*, gen. *bhắratas*, but in Greek φέρων, acc. φέροντα, gen. φέροντος with the same stem throughout. In χαρίεις, stem χαριϝεντ-, we find the fem. χαρίεσσα for χαριϝετι̯α (not χαριϝεντι̯α which would become χαριεισα). Properly the stem should be masc. χαριϝεντ- fem. χαριϝn̥τ-ι̯α, which last should give χαριασσα, but the ε vowel of the masc. has taken the place of α. Mute Stems.

In Latin, vowel variation in mute-stems is unknown, one form of the root being extended to all cases, e.g. *dŭc-* in *dŭcis*, *rēg-* in *rēgis*. The chief point to notice is that all present participles have passed into *I*-stems in the neuter nom. and in the gen. plural (*ferentia, ferentium*, poet. *-um*, as compared with φέροντα, φερόντων). The present participles have the weak stem everywhere, as contrasted with the strong stem in Greek, but *-iens, euntis* is a solitary case of vowel variation. The strong stem is however seen in *sons*

as compared with *absens*, in *flexuntes*, and perhaps in the forms of the gerundive in *-undus* (*ferundus* for *feront-no-s*).

S-Stems. Stems ending in *s* shew few traces of stem variation.

1. Stems in *-ος*, *-ες* shew a variation of *ο* to *ε* in

γέν-ος, γεν-εσ-ος (γένους).
gen-us, *gen-er-is*.

The stem of αἰδώς is αἰδοσ-, but -εσ- survives in αἰδεσ-θῆναι. The acc. αἰῶ is for αἰϝ-οσ-ṃ, beside which we have αἰεί, ἀεί, for the loc. αἰϝ-εσ-ι. The long vowel of this stem comes in ἐπ-ηε-τανός.

Nouns with these stems are mainly neuter, and mostly have ε as the vowel of the root, with some exceptions, such as βάρ-ος, and post-homeric πάθ-ος, βάθ-ος, etc.

In Latin the normal type shews a vowel variation, as in *genus*, *generis*; but not unfrequently uniformity of the vowel is introduced, as in *tempus*, *temporis*, though the *e* sometimes survives in cognate forms, e.g. *tempestas*. The formation of new masculines and feminines in *-or*, *-ora* has been spoken of above. The feminines in *-ēs* like *sedes* seem to be in the same way new forms as compared with the Greek ἕδος, though they find their parallel in the Greek adjectives εὐγενής. In declension they are assimilated to *I*-stems (*sedi-um*, *sedi-bus*).

2. Stems in -ασ- occur in γῆρ-ας, κρέ-ας, where α answers to a Sk. *-i-* as in *krav-ís*, shewing that the vowel is indeterminate.

In Latin these stems correspond apparently to forms of the type *cinis*, *cineris* (cf. *serenus* for *seres-nus*, Gk. σέλας), though if this is so, the change of gender is to be noticed.

3. The *Perfect Participle Stems* in -ϝοτ-, -υσ-, shew vowel variation in the Epic.

εἰδ-ώς (εἰδ-ϝοτ-ς) Sk. *vid-vā́n*.
ἰδ-υῖα (ἰδ-υσ-ια) *vid-úṣ-ī*
ἀρηρ-ώς (ἀραρ-ϝοτ-ς), ἀρᾰρυῖα.

Sanskrit has a nasalised form of the termination *-vans-* which is not found in Greek. The objection to ranking

these stems as *s*-stems is that in Greek the masc. shews *t* and not *s*.

In Latin there is no certain relic of this class.

4. The comparative stems with suffix -ι̯οσ-, -ι̯εσ- have an intrusive nasal inserted both in Greek and Sanskrit. Thus from *gárīyas* (heavier) we have acc. *gárīyāṇsam*, gen. *gárīyasas*, cf. Greek μείζων, μείζονα, μείζονος. In Greek, however, we find the stem without the nasal in the acc. μείζω = μεγ-ι̯οσ-α, gen. μείζους = μεγ-ι̯οσ-ος, etc. The nasal is always preserved in the nom. and dat. sing. and in the gen. plural. The suffix -ι̯εσ- appears in the Epic πλέες (πλε-ι̯εσ-ες). The reduced form of the suffix, i.e. -*is*-, appears in the superlative suffix -ισ-το-. In this form there is no trace of a nasal.

In Latin the nasal seems never to have existed, and the termination of the comparative is -*i̯ôs* (-*ior*) with the long vowel of the nominative carried throughout the inflexion. Some traces of the forms -*i̯es*- and -*is*- remain in *majestas* (*māh-i̯es*-, cf. πλέες), *pr-is-cus* (cf. *pr-ior*), *mag-is*, *nim-is*, etc.

Originally there was a variation of the root vowel in Greek between comparative stems in -ι̯οσ- and superlative stems in -ιστο-, e.g.

κρείττων, Ion. κρέσσων	κράτιστος.
ὀλείζων	ὀλίγιστος.

But neither in Sanskrit nor Greek is there any trace of a shifting of the accent accompanying the variation of the root vowel.

In most cases the vowel of the root has been made the same both in comparative and superlative, and instead of βαθ-ύς, *βενθ-ιων, βάθ-ιστο-ς we have βαθ- as the root in all degrees. In some cases we find a difference of quantity in the comparative which may be referred to an original stem variation, e. g.

ἐλαχ-ύ-ς	ἐλᾱ́σσων (= ἐλαγχι̯ων for ἐλεγχ-ι̯ων)	ἐλάχ-ιστο-ς.
ταχ-ύ-ς	θᾱ́σσων (= θαγχι̯ων for θεγχ-ι̯ων)	τάχ-ιστο-ς.
μάλ-α	μᾶλλον (= μαλι̯ον for μελ-ι̯ον), Lat. *melius*	μάλ-ιστα.

Secondary suffixes.

Secondary suffixes are, for the comparative *-τερο-*, Sk. *-tara-*, and for the superlative *-τατο-*.

The suffixes *-το*, *-ατο* are found in the ordinals, e.g. *τρί-τος*, with a superlative meaning in *πύμ-ατος*, *ὕπ-ατος*, *ἔσχ-ατος*, and combined with the ordinal suffix in *τρί-τ-ατος*, *ἑβδόμ-ατος*. Of these the suffix *-ατο-* is perhaps due to the analogy of the ordinals *τέτρα-τος*, *ἕνα-τος*, *δέκα-τος*, where the *α* is part of the stem. The superlative suffix *-τατο-* is a Greek formation and is a combination of the two suffixes *-το-* and *-ατο-*.

An accumulation of the suffixes of comparison is to be seen in *ἐν-έρ-τερ-ος*, *ὑπ-έρ-τερ-ος*, *χερ-ειό-τερ-ος* (cf. Lat. *inf-er-ior*).

The suffixes *-τερο-*, *-τατο-* are added either to the stem, as in *ὠμό-τερος*, *ἀληθέσ-τατος*, or to case forms, as for instance to the locative in *παλαί-τερος*, *μυχοί-τατος*. The difference between *-ωτερος*, *-ωτατος*, and *-οτερος*, *-οτατος*, if not merely metrical, can be explained by supposing that the long vowels come from cases (abl. or instr.) in *-ω*, e.g. *σοφώ-τερος* (p. 104).

Other suffixes of comparison are to be seen in *ἔν-εροι* (cf. Lat. *inf-erus*, *sup-erus*), and *πρό-μος* (cf. *pri-mus*, *ulti-mus*).

Comparison of Adjectives in Latin.

The termination of comparatives in Latin is *-ios*, *-ies*, *-is*, as shewn above. The forms present no special difficulty, but *minus* is better taken to be an old neuter substantive *minus*, **mineris* (cf. Old Lat. *miner-rimus*, *minis-ter*, etc.), which, when used at first in apposition, and eventually adjectivally, got a new masculine form *minor* (cf. *decus* beside *decor*).

Other comparative suffixes are *-tero* in *exterus*, *posterus*, and *-ero*, which appears with a second suffix in *inferior*, *superior*.

The superlative suffixes are (1) *-mo* in *pri-mus*, *sum-mus*, *extre-mus*, *bru-ma* (*breu̯-ma*); (2) *-tumo*, *-timo* in *ex-timus*, *ul-timus*, *pos-tumus*; (3) *-simus* in *maximus*, *plu-rimus*, *facil-limus*. The addition of this suffix to the reduced form *-is-* of the comparative suffix *-ios-* gives the ordinary termination *-issimus*.

The Greek Case System.

The cases (πτώσεις) are inflexions of the stem formed by the addition of suffixes for the purpose of expressing the relations of nouns to other words in a sentence. Excluding the *Vocative*, which is not properly a case, there were in the original language seven cases, viz. *Nominative*, *Accusative*, *Genitive*, *Dative*, *Locative*, *Ablative*, *Instrumental*. Of these Sanskrit has all, Greek and Latin exclude the Locative and Instrumental from common use, and Greek is without a special case form for the Ablative. The Greek Case System.

The *Nominative* case is marked by (1) the simple stem, as in χώρᾱ. In Attic, except after ρ or α, ε, ι, the final vowel is almost always η. (2) A lengthening of the stem vowel, e.g. πα-τήρ, ἄκ-μων. (3) The suffix -ς, e.g. ἵππο-ς, ὀφρύ-ς, πούς. The Singular Number. Nom.

The normal termination of the nominative is -ς. In the *A*-declension it only appears in masculines like πολίτη-ς, which have followed the analogy of the *O*-declension. In the consonantal declensions we have some nominatives with both a lengthening of the vowel and -ς, e.g. ἀλώπηξ. In ἱστάς, δούς, etc., for ἱστᾰντς, δοντς, the lengthening is in compensation for the loss of the consonants.

The *Vocative* has its accent as far back as possible. The terminations are (1) -ε, e.g. ἵππε: (2) -ᾰ, e.g. νύμφᾰ: (3) the simple stem, e.g. γέρον, πάτερ. Vocative.

The Epic μητίετα, ἱππότα, νεφεληγέρετα, etc. are probably Vocatives which have come to be employed as nominatives in Homer. They are epithets used as titles of respect.

The *Accusative* is marked by (1) -ν, for I.-E. *-m*, e.g. ἵππο-ν, Sanskrit *áçva-m*, χώρα-ν, ὄρνῑ-ν, Ζῆ-ν, etc. in stems ending in a vowel; (2) -α, for I.-E. -m̥, e.g. πατέρ-α, πόδ-α, in consonantal stems. Accusative.

In the Attic declension the final letter is sometimes lost, as in λαγώ for λαγών, cf. ἥρω. The sign of the Accusative is

doubled in Ζῆ-ν-α, ἶ-ν-α, τίνα, because the nasal was regarded as part of the stem.

Neut. Nom. and Acc. The *Neuter Nominative and Accusative* is marked by (1) -ν, for I.-E. -*m*, e.g. ζυγό-ν, Sk. *yugá-m* (2) the simple stem, e.g. ἡδύ, ἴδρι, πέπον (3) -ρ, e.g. in πῖα-ρ, ὕδωρ.

Genitive. The *Genitive* has as case-signs (1) -σι̯ο, e.g. ἱπποσι̯ο (Sk. *áçva-sya*) = ἵπποιο = ἵπποο = Attic ἵππου, Doric ἵππω. Genitives in -οο, e.g. ὅο, Ἰλίοο, are not found in the MSS., but are metrically justified as conjectural alterations in Homer, e.g. we may read Ἰλίοο προπάροιθεν for Ἰλίου προπάροιθεν. (2) -ς, e.g. χώρα-ς. In the masculines of the *A*-declension the genitive, e.g. πολίτου, is due to the analogy of the *O*-declension, e.g. ἵππου. (3) -ος, in all but *A*- and *O*-stems, e.g. ποδ-ός, κι-ός, πατρ-ός, γένους (γενεσ-ος). In *I*- and *U*-stems we find a termination -ως, which belongs to nouns of the type of βασιλεύς, νομεύς with genitives βασιλῆ-ος, νομῆ-ος, which by metathesis of quantity become βασιλέως, νομέως. Upon the analogy of such forms we find πόλεως, φύσεως, which however retain the accent of πόλεος, φύσεος. The form Σωκράτου has replaced Σωκράτους on the analogy of πολίτου, in the same way as Σωκράτην appears for Σωκράτη on the analogy of πολίτην.

Ablative. The *Ablative* had in the Indo-European *O*-stems a special termination -*d* preceded by a long vowel, as in Lat. *Gnaivōd*. In Greek we find the Cretan τῶ-δε (*hinc*), and Locrian ὧ and ὅπω (*unde*). The Attic ὧ-δε, οὕτω, σοφω- of σοφώ-τερος, as well as the adverbs with an additional suffixed -ς, e.g. οὕτω-ς, καλῶ-ς, may very well be *Instrumental*, and -ω = -ο-α. Other suffixes with an ablatival meaning are -τος, as in ἐν-τός, ἐκ-τός, and -θεν, in ἔν-θεν, οἴκο-θεν, πό-θεν, etc.

The *Dative*, *Locative*, and *Instrumental* were originally distinct cases, but in Greek the distinctions have not been maintained.

Dative. The *Dative* was originally a *weak* case, with a reduced stem and a full ending -*ai̯* which bore the accent. ἵππῳ then points back to ἱππο-αι̯, χώρᾳ to χωρα-αι̯, cf. Sk. *sénāy-āi*.

The ending *-ai̯* appears in the Greek infinitive ἴδ-μεν-αι, Sk. *vidmán-e.*

The *Locative* was originally a *strong* case with full stem which bore the accent, and suffix *-i.* Remains of this case in Greek can be seen in οἴκε-ι, ἀθεεί, πανδημεί, and Lat. *domi.* In the *O*-declension -οι has replaced -ει, as for instance in οἴκοι, πέδοι, ἐνταυθοῖ. In the *A*-declension we have χαμαί, Θηβαι-γενής, and παλαί-φατος. Locative.

In the other declensions there is a single case-ending *-i*, e.g. ποιμέν-ι, κι-ί, which seems to be locative. In such words as ὀπ-ί, κυν-ί we find the stem weak with the ending accented, which are marks of the dative, together with the ending *-i* which marks the locative. The two cases, in fact, are no longer distinguishable.

The *Instrumental* ended in *-ă*, and is found in a few adverbial forms such as ἅμ-α, πεδ-ά, and in compounds such as ἑκά-εργος and ἑκη-βόλος. Sometimes it contracts with the vowel of the stem, as in Attic πῇ, πανταχῇ, perhaps also in οὕτω, etc. Instrumental.

The *Nom.* and *Acc. Dual* have as their case-ending (1) -ε, e.g. βό-ε, πατέρ-ε, πόδ-ε. Such a word as γένεε for γενεσ-ε should in Attic properly contract into γενει. The analogy of the plurals γένη, ἄστη has led to the dual forms γένη, πόλη, πήχη, ἄστη, etc. In the *I*- and *U*-stems we find βάσεε, βαρέε, but the Sanskrit duals *gáti*, *gurú* lead us to suppose the correct forms to have been βασῑ, βαρῡ. (2) -ω, e.g. ἵππω, Lat. *ambo.* In Sanskrit the dual is *áçvāu*, though there is an older *áçvā.* This double form points to an original I.-E. *-ōu̯* before a vowel, and *-ō* before a consonant. In Greek and Latin the *-ōu* appears in ὀγδοϝ-ος, *octāv-us*, as we see by comparing ὀκτώ, *octo*, with Sk. *aṣṭāu.* (3) *-ā*, e.g. χώρᾱ. The Sanskrit has *áçve*, which points to an ending *-ai.* The nom. plural χῶραι has then the form of the true nom. dual, while χώρα is a new formation modelled on ἵππω. The Dual Number.

The *Genitive* and *Dative* ending is (1) in the *A*-declension

-αιν, (2) in the other declensions, -οιν, Ep. -οιιν. The form δυεῖν beside δυοῖν may be compared with οἴκει, οἶκε, and perhaps points to an original ε vocalisation of the case. The Greek endings do not correspond to other Indo-European dual endings, and cannot be reconciled with them.

The Plural Number. Nom. The *Nom. Plur.* ends in (1) -ες, e. g. πατέρ-ες, πόδ-ες, κί-ες, νέκυ-ες. The forms βάσεις, ἡδεῖς, of the *I*- and *U*-declensions are for βασεϳ-ες, Sk. *gátay-as*, ἡδεϝ-ες, Sk. *svādáv-as*. The Attic βασιλῆς is the proper contracted form of βασιλῆ-ες, the nom. plur. of βασιλεύς, while βασιλεῖς is late. (2) In the *O*- and *A*-declensions -ες should contract with the stem-vowel and give ἵππως (= ἱππο-ες), χωρᾱς (= χωρα-ες), cf. Sk. *açvās*, but we do not find these forms in Greek. The nom. plur. of the *O*-declension, e. g. ἵπποι, has replaced ἵππως, and has been formed on the model of τοί, Sk. *té*, of the pronominal declension. In the same way χῶραι has taken the place of χωρας.

Accusative. The *Accusative* case-endings are (1) -*ns*. In the *O*-declension -ο-νς, Cretan κόρμονς, passes in Attic into -ους, e. g. κόσμους. In the *A*-declensions χώρᾱς is for χωρα-νς, cf. Cretan πρειγευτάνς, Att. πρεσβευτάς. In the *I*- and *U*-declensions instead of βασι-νς, βασῖς, Sanskrit *gátīs*, and βαρυ-νς, βαρῦς, Sanskrit *gurū́s*, Epic ὄῖς, νέκῦς, we find βάσεις and βαρεῖς, which are really nominatives used as accusatives, as are πόλεις, πηχεῖς, βελτίους, etc. (2) -ṇs, e. g. πόδ-ας, πατέρ-ας, φέροντ-ας, etc. From stems in -ῐ we have acc. pl. in -ας, e. g. Epic πόλι-ας, but in Attic the nom. πόλεις is used. In Homer we find ὄῖς, ἤνῖς. From stems in -ῠ we have ὀφρύ-ας, νέκυ-ας, but also νέκῡς, ἄρκῡς, etc. The acc. of βασιλεύς is βασιληϝ-ας, which by metathesis of quantity becomes βασιλέᾱς. From monosyllabic stems the Attic accs. ναῦς and βοῦς are newly modelled on ναῦν and βοῦν, and replace νῆϝ-ας, βόϝ-ας.

Neuter Nom. and Acc. The *Neuter Nom.* and *Acc.* suffix is -α in all stems, but the older Sanskrit has -*ā* in the *O*-declension, elsewhere -*i*, e. g. φέροντ-α, Sk. *bhárant-i*. In the *I*- and *U*-stems the

neut. plur. was originally marked by the long vowel, e. g. Sk. *purū́*, Lat. *trī-ginta*, but endings in -α have been preferred, e. g. βαρέα, τρία.

The *Genitive Plural* has for its suffix -ων, which stands for an original I.-E. suffix *-ŏm*, e. g. ἵππων for ἱππο-ŏm. In the *A*-declension we have χωρῶν, Epic θεά-ων. The formation has here been modelled on that of the pronominal declension, e. g. τάων for τᾱσων, Sk. *tāsām*. In the declension of feminine adjectives and participles in -η, the gen. plur., e. g. φίλων, has not the circumflex accent unless the word is oxytone throughout. In the *A*- and *O*-declensions the long vowel of the ending is due to contraction with the vowel of the stem. But this long vowel has by analogy been transferred to the other declensions, and we get ποδ-ῶν (not ποδ-ον), νεκύ-ων, etc. The genitives πόλεων, βάσεων are accented on the analogy of their genitives singular. Genitive.

The *Locative* ending is -σι, e. g. θύρᾱ-σι, Ἀθήνη-σι, πατρᾰ́-σι, ποιμέ-σι, etc., in Sanskrit *-su*, e.g. *áçve-ṣu*. The uses of Dative and Locative have coalesced and the case-forms cannot be kept distinct. In the *A*-declension, besides the ending in -ασι already given, we find -ησι and -αισι, e. g. νύμφησι in Homer and νύμφαισι: in the *O*-declension we have λόγοι-σι. In the *I*- and *U*-declensions, instead of βασῐ-σι, βαρῠ-σι, we find βάσε-σι and βαρέ-σι, with the same vowel as the rest of the plural (p. 95). From νέκυς we have Epic νέκυσσι as well as νεκύ-εσσι. From βασιλεύς we have βασιλεῦ-σι, shortened according to rule (p. 66) from βασιλην-σι, as also is ναυ-σί from νᾱυ-σί. Regularly, of course, σ between vowels should disappear, but from the influence of the love of uniformity intervocalic σ was kept in the dative on the analogy of forms where it was not intervocalic, e. g. θρικ-σι, θριξί. Locative.

In Liquid stems we find the weak stem in πατρά-σι, Sk. *pitṛ́-ṣu*, while on the other hand φρε-σί has replaced φρα-σι for φρν̥-σι, and has kept the ε of the other cases.

In *S*-stems we have ἔπεσ-σι, Att. ἔπε-σι, or with doubling of

the stem the Homeric ἐπέ-εσ-σι for ἐπεσ-εσ-σι. From εἰδώς we have εἰδόσι (εἰδ-ϝοτ-σι), with the stem of εἰδότες, etc., but with the weak stem we should have rather had εἶδυσι (εἰδ-υσ-σι).

Instrumental. An *Instrumental* ending appears in λύκοις, Sk. *vṛkāis*, pointing to an original I.-E. *-ōis*. Upon this model probably rose the datives of the *A*-declension in -αις, which only thrice occur in Homer. There is no corresponding ending *-āis* from this declension in Sanskrit. The instrumental ending -φι(ν) appears in Homer, both as plural and singular, e.g. the plur. θεό-φιν, θύρη-φιν, στήθεσ-φι, as well as the sing. στρατό-φιν, βίη-φι, ἶ-φι.

The Latin Noun-System.

The Latin noun-system differs from the Greek in having no dual, with the exception of the isolated forms *duo*, *ambo*, and possibly the neuters of the fourth declension *cornu*, *genu*. It has an ablative in common use in the singular and some considerable remains of a locative. The dat.-abl. plural of *A*- and *O*-stems is instrumental in origin.

The case endings are as follows :—

Singular Number. Nominative. *Nominative.*—The normal ending is *-s*, which, however, often disappears under the laws governing final combinations of consonants in Latin. Thus corresponding to the Greek ἀγρός we should have Latin **agros*, but *ro* unaccented seems to become *er* (compare p. 38), and *agers* passes into *ager*. *ferents* becomes *ferens*, but *homons* becomes *homo*, if this last type is not formed merely by a lengthening of the last vowel of the stem, like Gk. ἄκμων.

Corresponding to the Greek type πολίτης we find in Old Latin *paricidas*, *hosticapas*, etc. In later times the masculine *A*-stems have been assimilated to the more common feminine (*poeta*).

Vocative. *Vocative.*—A distinct form is only found in *O*-stems, when the termination is *-e*.

Accusative.

Accusative.—The normal suffix is *-m* after vowels, *-m̥* (*-em*) after consonants. In the majority of *I*-stems, however, the termination *-em*, on the analogy of the consonantal stems, has become more usual, *-im* often surviving only in stereotyped adverbial forms (*partim*, *praesertim*, etc.).

Neuter nom. and *acc.* in the case of *O*-stems take *-m*, elsewhere consist of the pure stem modified by the laws of final combinations, e. g. *cor(d)*, *lac(t)*. Sometimes they are assimilated to the masculine, as in the adjs. *felix*, *ingens*.

Genitive.

Genitive.—The terminations are (1) *-os* in the old Latin *senatu-os*, passing into *-us* in *Cerer-us*. (2) *-is*, the normal termination of the third declension and often also of the fourth (*senatu-is*). This termination, though unknown to Greek, finds its parallel in other I.-E. languages. (3) *-ī* in *O*- and *A*-stems (*mensa-i* = *mensae*, *domino-i* = *domini*). (4) *-ās*, the original termination in *A*-stems, surviving in classical Latin in *famili-as*.

Dative.

Dative.—The termination seems to have been *-ai̯*, and in the oldest Latin we find *populoi Romanoi* (for *populo-ai*). But in all declensions a confusion has arisen between the dative, locative, instrumental and ablative endings, and the difficulty of deciding the origin of any given form is increased by the fact that at a certain period of the language *-ei*, *-i* or *-ē* seem to have been used indifferently to represent the same sound. For instance, in *I*-stems *ove*, also written *ovei* and *ovi*, was used in the sense of the dative, but whether in origin it is dative or locative is uncertain. *Mensae* (*mensa-i*) seems to be locative (cf. *Romae*), but *domino* may be ablative (cf. *Corintho*).

Locative.

Locative.—The termination is *-i*, which certainly survives in *domi*, *humi*, etc. In some adverbial forms we get terminations in *-ĕ* and *-ī* side by side, e.g. *peregrĕ* and *peregrī*. The *-ĕ* strictly belongs to consonantal stems, a final *-ĭ* becoming *-ĕ* regularly in Latin (*marĕ*, stem *marĭ-*), the *-ī* to *I*-stems by contraction with the final vowel.

Ablative.

Ablative.—The termination is *-d*, but the final vowel of the stem is lengthened before the consonant, so that probably the termination also contained a vowel. The consonant is lost in classical Latin, but in early Latin we find forms like *Gnaivōd* (*Gnaeō*), and the forms *med*, *ted* are common in Plautus, both as ablatives and by a further extension as accusatives. An ending with adverbial meaning is *-tus*, e.g. *fundi-tus*, *peni-tus*, *in-tus*, Gk. ἐν-τός. Another ending with ablatival meaning comes in *in-de*, *un-de*.

Instrumental.

Instrumental.—The termination is *-ă*, which must become in later Latin *-ĕ*, and therefore coalesces with the locative. Any certain trace of it is therefore hard to find. *manū*, e. g., may be (1) instr. for *manu-e*, (2) abl. for *manū-d*. Possibly the adv. *quī* stands for *quĭ-e* (from *quĭ-s*) as *fīlī* for *filĭe*.

The *Dual* survives in *ambō*, *duō*, perhaps *octō*, and possibly in the neuters of the fourth declension which denote a pair of things—*genū*, *cornū* (p. 105).

The Plural Number. Nominative.

Nominative.—The endings are (1) *-ĕs*, which with *I-* and *U-* stems contracts with the final vowel to *-ēs*, *-ūs*, e.g. *partēs*, *fluctūs*. The long vowel may have been transferred to consonantal stems, as in *pedēs*, or the lengthening may be due to the analogy of the accusative. There is no certain trace of this ending in *A*-stems in Latin. (2) In *O-* and *A*-stems the terminations were originally *-oi*, *-ai* as in Greek, and may be explained as borrowed from the pronominal declension (*istī*, *istae*). *mensai* becomes *mensae* as in the gen. sing. The forms of the *O*-declension were successively *poploe*, *pople*, *poplei*, *populi*.

Accusative.

Accusative.—The termination is *-ns* after a vowel, becoming *-s* with a lengthening of the preceding vowel (*equōs* = *equŏ-ns*), and *-n̥s* after a consonant (*pedēs* = *pedn̥s*). In *I*-stems the proper form is *ovīs* (*ovi-ns*), but the analogy of the consonantal stems has produced the by-form *ovēs*.

In the case of neuters the original termination *-ā* (Sk. *yugá*) of the *O*-declension has become universal, but the final vowel has been shortened, except in e.g. *quadrā-gintā* and in some adverbs like *intereā*. *trī-gintā* preserves the older form of the neuter plural of *I*-stems (p. 107).

Genitive.—The endings are (1) *-ŏm* becoming *-ŭm* in consonantal, *I*- and *U*-stems, which also survives in some forms of the *O*- and *A*-stems (*duum-virum*, *talentum*, *amphorum*). Very frequently consonantal stems have an *i* inserted before the termination on the analogy of the *I*-stems (*civitatium*, stem *civitāt-*). (2) *-sōm* becoming *-rum*. This strictly belongs to the pronominal declension, but is the ordinary ending in the *A*-, *O*- and *Ē*-stems, the penultimate vowel being always long. Genitive.

Dative and Ablative.—(1) *A*- and *O*-stems have an instrumental form, *mensīs*, *equīs* standing for *mensāis*, *equōis* (Sk. instr. *áçvāis*). In Old Latin we find *oloes* (*illīs*), which seems an intermediate form. (2) All other stems have *-bŭs*, apparently answering to the Sk. ending *-bhyas*, but the correspondence is not exact. All consonantal stems insert an *i* before the termination on the analogy of the *I*-stems (*voc-i-bus*, stem *voc-*; contrast Sk. *vag-bhyas*). Dative and Ablative.

The Pronouns.

The Pronouns (ἀντωνυμίαι) were so called from the fact of their being able to take the place of a noun. For the purpose of considering their inflexions they may be divided into those which mark the distinctions of gender and those which do not. The Pronouns.

I. Pronouns without distinction of Gender.

The Personal Pronouns do not mark distinctions of gender. They are remarkable for the number of different stems employed in their declension. Personal Pronouns.

First personal pronoun.

First Personal Pronoun.

Nom. Sing. ἐγώ, before vowels in Homer ἐγών, Boeotian ἰώ, ἰών, Latin *egō*, later *egŏ*. The relation of this case to Sk. *ahám* and the cases from the stems με-, μο- is obscure.

Acc. ἐμέ and enclitic με, Lat. *mē*, with vowel lengthened in a monosyllable ending in a vowel.

Dat. ἐμοί, μοι, Sk. *me*, Lat. *mi*, Dor. ἐμ-ίν (often accusat.). Lat. *mihī* to some extent answers to Sk. dat. *máhyam*.

Gen. ἐμε-σι̯ο, ἐμεῖο, ἐμέο, ἐμεῦ, ἐμοῦ, μεῦ, μοῦ. These forms are genitives of possessive stems with suffix -σι̯ο.

There is a Doric gen. with suffix -ς, ἐμέος, ἐμοῦς, ἐμεῦς, on the analogy of the consonantal declension, and in Homer ἐμέ-θεν with an ablatival suffix. The Latin genitives are *meī* and old Latin form *mīs* with suffix *-s*.

The stem of the Dual is νω-.

Nom. and Acc. νῶϊ, Att. νώ.
Gen. and Dat. νῶϊν, Att. νῷν.

This stem supplies the plural of the first personal pronoun in Latin.

The stem of the plural is Aeol. ἀμμε-, Att. ἡμε-, Sk. *asma-*, pointing back to I.-E. *n̥sme-*. Originally the inflexional endings were not plural, as can be seen in the Homeric acc. ἄμμε. Later on the plural endings were added.

Nom. plural Aeol. ἄμμες, Doric ἀμές, Att. ἡμεῖς for original ἀμμε. The ending of ἡμεῖς is due to the analogy of such forms as σαφεῖς.

Acc. Epic and Aeol. ἄμμε, Ion. ἡμέας, Att. ἡμᾶς, and poet. ἧμας.

Dat. Aeol. ἄμμιν, ἄμμι, Dor. ἀμίν, Att. ἡμῖν, poet. ἧμιν.

Gen. Aeol. ἀμμέων, Dor. ἀμέων, Att. ἡμῶν for an original sing. ἀμμειο like the sing. ἐμεῖο.

The aspirate of the Att. and Doric forms is due to the analogy of ὑμεῖς.

Second personal pronoun.

Second Personal Pronoun.

Nom. Sing. Epic τύνη, Dor. τύ, Att. σύ, Lat. *tū*. The σ in Attic has come in from other cases where it stands for original *tu̯*, e.g. in the acc. τϝε = Dor. τέ, Att. σέ. The form τίν in Theocritus answers to the accusatives μίν, νίν of the third personal pronoun.

Dat. τϝοι, Dor. τοί, Att. σοί, Sk. *te*; Latin *tibi*, more or less corresponding to Sk. dat. *túbhyam*.

Gen. *τϝε-σι̯ο, σεῖο, σέο, σεῦ*, Att. *σοῦ*, Dor. *τέο, τεῦ, τέος, τεῦς*, Latin *tuī*, older *tīs*.

Nom. and Acc. Dual *σφῶϊ, σφώ*.

Gen. and Dat. Dual *σφῶϊν, σφῷν*.

The stem is obscure.

The stem of the Plural is *ὑμε-*, Sk. *yuṣma-*, I.-E. *i̯usme-*, to which, as with the first person, plural endings have been added. The aspirate of the Greek stem is regular in Attic and Doric. The original inflexion should have run—

ὑμμε, ὑμμειο, ὑμμι.

The stem *vŏ(s)-* of the Latin is unknown in Greek, but answers to Sk. *vas*.

Third Personal Pronoun.

The stem of the third person is *σϝε- σϝο-*, Sk. *sva-*, with a fuller form *σεϝε-, σεϝο-*, Old Latin *sovo-* from *seu̯o-*, which, being as an enclitic unaccented, becomes *suu-s* (p. 35). Third personal pronoun.

Acc. *σϝε, ἕ*, Epic *ἑέ*, Lat. *sē*.
Dat. *σϝοι, οἷ*, Epic *ἑοῖ*.
Gen. *σϝε-σι̯ο, εἷο, ἕο, εὗ, οὗ*.

The stem *σφε-, σφο-*, appears in the forms *σφι, σφιν, σφισίν*, as well as in the plural *σφεῖς, σφῶν*, etc. and the dual *σφωΐ, σφωΐν*. Originally the stem may have come from an instrumental *σ-φι* and been extended.

Out of the double form of the stem *σϝε-* and *σεϝε-* rose the two forms of the reflexive.

σϝε-αυτον = σϝ-αυτον = ϝαυτον = αὑτόν.
σεϝε-αυτον = σεϝ-αυτον = ἑϝαυτον = ἑαυτόν.

In the same way *σεαυτόν, σαυτόν* must be referred to the two stems *τεϝε-* and *τϝο-*.

The original Latin abl. is *sēd*, which survives as a conjunction and preposition in the forms *sĕd, sēd-itio*, etc. When used as an abl. it naturally loses the *d* in classical Latin, but the parallel forms *mēd, tēd* are not uncommon in Plautus as ablatives, and also, by a confusion of forms, as accusatives.

Possessive pronouns are forms from the stems of the personal pronouns used adjectivally and declined as *O*-stems, e.g. ἐμό-ς, σός for τϝό-ς, ὅς Sk. *sva-*. For the plural in Attic we find ἡμέ-τερο-ς, ὑμέ-τερο-ς, cf. Lat. *noster*, *vester* with comparative terminations, but in Aeolic ἄμμος, ὔμμος, Dor. ἁμός, ὑμός.

Σφός and σφέτερος have been formed on the analagy of ὅς and ἡμέτερος.

II. Pronouns which mark the Distinctions of Gender.

Pronouns, with distinctions of gender.

The article ὁ, ἡ, τό was, like all definite articles, demonstrative in its origin, as we see from its Homeric uses. ὁ, ἡ, τό answer to Sanskrit *sá*, *sā́*, *tád*. The final consonant of the neuter of this type is to be seen in Lat. *id*, *quod*, as well as in Sk. *tád*, and in Greek ποδ-απός, etc. The declension of ὁ, ἡ, τό and the nominal *O*-declension have been assimilated to one another.

The noms. plural οἱ, αἱ, for original τ-οί, τ-αί as in Doric, Sk. *té*, have become the model for the nom. pl. of *A*- and *O*-nominal declensions. The fem. gen. pl. τάων corresponds to Sanskrit *tā́sām*, and became the model for the gen. pl. of the *A*-declension, e.g. θεάων, θεῶν. With addition of suffix -δε to the stem of the article pronoun we have ὅ-δε, ἥ-δε, τό-δε, and from the same stem the adverbs ὧδε and ὥς (so).

The origin of οὗτος can perhaps be seen in τοῦτο for τό-ὑ-τό, which comes from a doubling of the demonstrative connected by ὑ, the reduced form of αὖ, answering to the enclitic Sanskrit particle *u*, which means 'further.'

ἐκεῖνος.

In Attic ἐκεῖνος, poetic κεῖνος, the diphthong -ει- is not original, and before the archonship of Eucleides was represented on Attic inscriptions by -ε-. Lesbian κῆνος, Doric κῆνος, τῆνος.

αὐτός.

The origin of the oxytone αὐτός is unknown; its declension resembles that of ὁ, ἡ, τό.

ὅς.

The stem of the relative ὅ-ς, ἥ, ὅ answers to Sk. *yá-s*, I.-E. *i̯o-s*. To this stem we may refer the relative adverb ὡς.

The interrogative stem I.-E. *qo-* appears as πο- in Att. ποῖ, ποῦ, πό-τερος, etc., and κο- in Ionic κοῦ, etc. The Lat. stem is *quo-*. The I.-E. *qe-* appears as τε- in Ion. τέο, τέῳ, τέων, τέοισι, Att. τοῦ, τῷ, etc. The Lat. stem is *que-*.

The composite stem ὁ-πο- is to be found only in adverbial forms, e.g. ὅπου, ὅπως, Ion. ὅκως. The forms ὅππως, ὅκκως came from ὀδ-πως, ὀδ-κως by assimilation of the nom. acc. neut. ὁπο-.

Gk. τίς, interrogative, as well as the indefinite and enclitic τις, Lat. *quis*, has in the Greek inflexion a nasal which does not appear elsewhere. The stem τι- appears in the dat. pl. τίσι and the neuter sing. τί, and is also to be found in Ion. ἄσσα, Att. ἄττα. Original τ̯α, used as an enclitic, passed to σσα, ττα, and the forms ἄσσα, ἄττα are due to the fact that σσα, ττα occur only after neuter plurals ending in α, e.g. Ar. *Ran.* 172 πόσ' ἄττα; for πόσα ττα; τίς.

The ν of the oblique cases was probably extended from the acc. sing. τινα. The regular accusative would be τιν, but just as Ζῆνα with a doubled accusative ending rose out of Ζῆν and led to a new formation Ζηνός, so out of τιν came τινα, and led to the inflexions τινος, τινι, etc.

The adjectival τόσος, πόσος, and ὅσος answer to the indeclinable Lat. *tot*, *quot*. They have probably been formed by the addition of the suffix -ι̯ο from indeclinable words, which have now disappeared in Greek, e.g. τοτ-ι̯ο-ς, τόσσος, τόσος. τόσος, etc.

We may refer the adverbial suffixes -θεν, -θι, -θα, -κι to a pronominal origin. To -θεν, as in αἰνόθεν αἰνῶς, and -θι, as in ἠῶθι πρό, we can find no parallel in the cognate languages. With -κι, as in οὐκί, πολλάκι, we can compare A.-S. *hit*, the neuter of *he*.

Some of the pronominal stems in Latin may be briefly noticed:— Latin pronominal stems.

to- in *ta-m*, *tu-m*, *is-te* (older *is-tus*), *to-t*, *ta-lis*, etc.
i- in *i-s*, *i-bi*, *i-ta*, *i-tem*, etc., with the strong form *ei̯* in *e(i)a*.

ho- in *hic* (*ho-i-ce*), *ho-die*, *ha-c*, *hu-c*, etc.
ol- in *ol-lus* (*ille* is later and on the model of *ipse*), *ul-tra*, *ol-im*.
al-, *alio-* in *al-ter*, *alio-s*.
qui-, Gk. τι- in *qui-s*, *qui-d*, *qui-a*, *quĭ-*; Gk. πο- in *qui* (*quo-i*), etc.
quĕ-, Gk. τε- apparently in *cottidie*, *cuius* for *quettidie*, *queius*.

The relation of *uter*, *ubi*, etc. to the Gk. stem πο- in πότερος is very obscure, for while the meaning and formation are in many cases identical, there is no trace of an initial guttural in Latin. In *nec-ubi*, etc. the *c* probably belongs to the negative, and it is not found at all in *neuter*.

The characteristic points of the inflexion of pronouns as distinguished from that of substantives are as follows:—

Nom. Sing. masc. and fem. in *-i*, *quo-i* (*qui*), *qua-i* (*quae*), etc.
Nom. Sing. neut. in *-d*, *quo-d*, *qui-d*, *istu-d*, τί-(δ), τό-(δ).
Gen. Sing. in *-īus* (only in Latin, unless we see it in the Greek ἐμε-ιος, ἐμεῦς—but it is not found with the personal pronouns in Latin).
Nom. Plur. masc. and fem. in *-i*, *ho-i* (*hi*), *ha-i* (*hae*), οἱ, αἱ, etc.
Gen. Plur. in *-som* with a preceding long vowel, originating apparently in the feminine, *istō-rum*, *istā-rum*, τά-ων (τῶν), etc.

The forms for the nom. and gen. plural have, as already explained, been extended to the corresponding cases of the *A*- and *O*-declension of substantives.

The Numerals.

The Numerals. *One.* (1) Stem *som-*, *sem-*, *sm̥-*, *sm-*. Greek ὁμός, ὅμοιος, ὁμοῦ, εἷς (σεμς), ἕν (σεμ), μία (σμ-ία), μῶνυξ (σμ-ωνυξ), ἅμα (*sm̥ma*, an instrumental), ἁ-πλοῦς (*sm̥-*), ἄ-λοχος (*sm̥-*). Latin *sim-plex*, *sin-guli*, *sim-ilis*. *Simul* is probably related to Gk. ἄμυδις, as *aliud* to ἄλλυδις. *Semel* is better divided *se-mel*, where the termination is the same as in Germ. *ein-mal*, the original meaning being 'a time by itself.'

(2) Stem *oino-*. Greek οἴνη. Latin *oinos*, *oenus*, *unus*, cf. *noenum* = *ne-o num*

The Homeric ἴα, ἰῷ are obscure. *Perendie* cannot be connected with *unus*, but more probably contains a similar form to Gk. παρά (*perə̥*).

Two. We have a dual form, *duō̯u* (originally before vowels), *duō* (before consonants): in composition also *du̯ō-* (δϝώδεκα), *du̯-* (δϝ-ίς, *bis*). The form δύο as well as δύω appears in Homer, who uses it as indeclinable. In later Greek we find plural forms δύας, δυσί, etc., and so exclusively in Latin.

Three. Stem *trei̯-*, *tri-*, in τρεῖς, *tres* (*trei̯es*), τρί-ς, τρίτος.

Four. Stems *quetu̯ōr-*, *qtur-*. The relation of these forms is an exceedingly difficult question. Sanskrit has a cardinal *catvāras*, an ordinal *turī́yas*, apparently for *ktur-iyas*, shewing the reduced stem. Greek has τέττορες and τέτορες (Doric), τέσσερες (Ionic), τέτταρες (Attic), shewing a vowel gradation in the last syllable of the stem. The Homeric πίσυρες is said to be Aeolic, and seems to represent the reduced stem *qtur-* with the velar becoming π before the dental, the ι being inserted for the sake of euphony. In τέτρα-τος, τέταρ-τος the *u̯* has left no trace. The reduced root perhaps appears in τρυ-φάλεια for πτρυ-φαλεια (I.-E. *qtu̯r̥-*).

In Latin the *a* of *quattuor* is a difficulty, but *que-* is unknown in Latin at the beginning of a word except when followed by *r*, and as the regular **cottuor* would have borne no resemblance to the cognate forms, the *a* may have been introduced from the ordinal *quartus*. The *d* in *quadruplex*, etc. is unexplained.

Five. I.-E. *pénqe*, Sk. *páñca*, Gk. πέντε, Latin *quinque* for **penque* by an assimilation of the labial to the guttural as *prope* stands for *proque* (cf. *proximus*). πέμπτος, *quin(c)tus* are regular.

Six. I.-E. *su̯eks*, Sk. *ṣáṣ*, Gk. ἕξ, Lat. *sex*.

Seven. I.-E. *septm̥*, Sk. *saptá*, Gk. ἑπτά, Lat. *septem*.

Eight. I.-E. *oktō(u̯)*, Sk. *aṣṭá*, *aṣṭā́u*, Gk. ὀκτώ, Lat. *octo*.

Nine. I.-E. *néu̯m̥*, Sk. *náva*, Gk. ἐν-νέϝα, Lat. *novem*. The Greek ordinal shews a single nasal in ἔνατος. The details of the various forms and the meaning of the first syllable in Greek are obscure.

Ten. I.-E. *dekm̥*, Sk. *dáça*, Gk. δέκα, Lat. *decem*.

Twenty. Sk. *viṅçatí*, Gk. εἴκατι, εἴκοσι, Lat. *viginti.* The Doric εἴκατι may stand for ϝεικn̥τι, and the ο of εἴκοσι come from the ordinal εἰκοστος (εἰκοντ-τος). The origin of the first syllable is obscure. The example of the German languages would lead us to look for a compound of which the first element signifies 'two;' but though *du̯i-* after a vowel in Latin might become *u̯i-*, as *suadu̯is* becomes *suavis*, this will not account for the Greek and Sanskrit forms. The *g* of the Latin is also unexplained, though it may be due to the following *n*.

The higher numerals are formed by the addition in Greek of -κοντα, in Latin of *-ginta,* to the simple numeral, but always with a long vowel preceding the termination. ὀγδοή-κοντα seems earlier than *octoginta,* of which a bye-form *octuaginta* exists, which has influenced the form of *septuaginta.* This is only one of the many cases of the influence of assimilation and analogy, which, as we should expect, is specially common in the numerals. But in most cases its working is so obvious as not to require illustration.

Hundred. I.-E. *kn̥tóm,* Gk. ἑκατόν, Lat. *centum.* The prefix in Greek is unexplained. The suffix *-ingenti* which is so largely used to form the multiples in Latin originates with forms like *septingenti* (*septm̥kn̥tí*). The Greek suffix -κοσιοι corresponds to the Sk. *-çatya* (Dor. -κατιοι) but has the vowel of -κοντα.

The Gk. χίλιοι (in Hom. -χῑλοι) goes back to a stem χεσλο-, Sk. *sa-hásra,* Dor. χήλιοι, Aeol. χέλλιοι, which should strictly in Attic become χείλιοι. *Mille, milia* may be akin to μύριοι.

The numerals in the other series may be treated more briefly.

πρῶτος, Dor. πρᾶτος, is superlative in form, like *primus.* δεύτερος has nothing to do with δύω, but is related to δεύομαι as *secundus* to *sequor.* ἕβδομ-ος, *septim-us, decim-us* shew the original final nasal of the stem, the suffix being simply -ος, which in δέκατος has been supplanted by -τος.

Bini stands for *du̯oi̯noi̯* (Engl. *twain*) as *bis* for *du̯is*, and from this form the suffix *-īni* has been extended in the distributives to *trini*, *quini*.

Nonus for *nou̯mus* may owe its second *n* to assimilation. The later ordinals are formed with the suffix *-tĭmus*, *-sĭmus* —thus, *vigesimus* = *vikn̥t-timus*; and then *-e(n)simus* was taken as the suffix throughout the series.

Ter beside τρίς may represent an unaccented form, perhaps originating in some phrase like *bís et ter* pronounced with one accent. The same theory will account for *tertius* beside τρίτος where the Sk. *tr̥tī́ya* shews the root syllable to have been originally unaccented (p. 76). *Quater* (instead of **quatur*) would seem to owe its final vowel to *ter*. The rest present no special difficulty. The adverbs in *-iens* seem to be originally substantival; cf. *triens*, τριάς (*trii̯n̥s*).

CHAPTER IX.

The Verb.

Verb Finite and Infinite.

For the sake of practical convenience two main divisions of the verb are made, into forms *Finite* and forms *Infinite.* The forms of the Verb Finite contain elements signifying differences of person, number, time, and modality, and are distinguished from other parts of speech by the union in one and the same word of *Subject* and *Predicate*, which are severally expressed in the ending and the stem. The endings are called Person-Endings. The Verb Infinite in the Infinitives, Participles, and Verbal nouns belongs properly to the nominal class. The Infinitive in Greek for instance was, as we shall see, originally the dative of an abstract noun.

Inflexional forms.

In Inflexional languages like Greek and Latin there is a great variety of grammatical forms. The Greek approximates most closely to the Sanskrit, and from a comparison of these two languages we obtain our idea of the structure of the Indo-European Verb. Greek and Latin mark by changes of form the character of the predication and the mental attitude of the speaker. This is what we understand by differences of *Mood* (ἐγκλίσεις). Differences of time are marked by differences of *Tense* (χρόνοι), which again are expressed by change of form. So too with differences of *Person* (πρόσωπον) in the subject of the proposition; of *Number* (ἀριθμός); of the state of the subject (διάθεσις), which we call *Voice.* All the foregoing differences of form are embraced under the general term of *Conjugation* (συζυγία).

The first distinction to be noted in the Greek verb is that between *Thematic* and *Non-thematic* Stems. **Thematic and Non-thematic Stems.**

Thematic Stems are those in which the termination is preceded by the vowels ε and ο, of which ο appears before nasals and ε before other letters, e.g. λύ-ο-μεν, λύ-ε-τε, λύουσι (=λυ-ο-ντι).

The name *Thematic* implies that the addition of the vowels ε and ο forms the verbal stem into a new theme. Just as the addition of the primary suffix -ο- makes λογ-ο- a nominal stem, so the addition of -ο- makes λεγ-ο- a tense stem.

In the Subjunctive Mood this thematic vowel is lengthened and we have λύ-ω-μεν, λύ-η-τε, λύ-ω-σι.

Non-thematic stems do not shew this variable ε and ο, but with them the ending is added directly to the root or stem, e.g. ἐσ-μέν, ἴδ-μεν, λελύκα-μεν, ἐλύσα-μεν.

Person Endings.

The origin of the *Person-Endings* is uncertain. They are perhaps to be referred back to Pronominal roots, but it is impossible to trace the history of their development from a primitive form. **Person endings.**

The Person-Endings are:

(1) *Primary*, i.e. those used in the Present, Perfect and Future Indicative and in the Subjunctive Mood.

(2) *Secondary*, i.e. those used in the *Historical* tenses, the Imperfect, Aorist and Pluperfect of the Indicative and in the Optative.

(3) Those of the Imperative Mood.

The Person-Endings of the Active Voice are as follows:

First Person Singular Active.

(1) Primary ending, (i) -μι in non-thematic verbs, e.g. ἵστη-μι, and in the optative of most thematic verbs, e.g. φέροι-μι; (ii) -ω in thematic verbs, e.g. φέρ-ω. The Sanskrit ending is **First sing. act.**

always *-mi.* In the Perfect the ending is *-α*, which seems to be original.

(2) Secondary, *-ν* for I.-E. *-m*, e. g. *ἔφερο-ν*, Sk. *ábhara-m.*

After consonants *-ν* becomes sonant and appears as *-α*, e. g. *ἦα* for *ἠσ-m̥*. This *-α* has by analogy replaced *-ον* in the forms *εἶπ-α* and *ἤνεγκ-α.*

It has been supposed that the secondary endings of thematic verbs, I.-E. *-om*, *-es*, *-et*, Gk. *-ον*, *-ες*, *-ε*, and Sk. *-am*, *-as*, *-at*, are earlier in origin than the primary. In Sanskrit the primary endings seem formed by adding *-i* to the secondary, e. g. *-āmi* (with long vowel), *-asi*, *-ati* answering to the Greek non-thematic endings *-μι*, *-σι*, *-τι*. In the Greek thematic endings *-ω*, *-εις*, *-ει*, it has been suggested[1] that *ι* has been *infixed* or passed into the preceding syllable. Thus *φέρω* = *φεροα* = *φεροι̯α* = *φεροιm̥*, where *m* has become sonant; *φέρεις* is for *φερε-ι-ς* and *φέρει* for *φερε-ι-τ*. This theory does not account for Lat. *ferō* (p. 148).

Second Person Singular.

Second sing. act. (1) Primary, *-σι*, in Sanskrit *bhára-si.* In Greek this ending only appears in the Substantive verb, viz. Homeric *ἐσ-σί.*

In Thematic verbs the ending of the present is *-εις*, e. g. *φέρεις.*

The ending of the 2nd sing. perf. act. was *-θα* which answers to Sk. *-tha*, and survives in *οἶσ-θα* for *οἰδ-θα*, Sk. *vét-tha*, and *ἦσ-θα*, which points back to an old perfect *ἦα*, Sk. *ása*, *ἦσθα*, etc.

In the Homeric *ἐθέλῃ-σθα*, *βάλοι-σθα*, etc., *-σθα* has replaced *-θα* on the analogy of *οἶσ-θα*, *ἦσ-θα*, in which the *σ* belongs to the stem (cf. p. 126).

(2) The secondary ending is *-ς*, e. g. *ἔφερε-ς*, *φέροι-ς*, *ἵστη-ς*, *ἔλυσα-ς.*

Third Person Singular.

Third pers. sing. act. (1) Primary ending *-τι*, in *ἐσ-τί*, Sanskrit *ás-ti*, Doric *δίδω-τι*, Attic *δίδω-σι*, Sanskrit *dádā-ti.*

This is the ending in Greek of the third sing. of the *-μι*

[1] Classical Review, March, 1888.

conjugation generally. It also appears in the Epic ἐθέλῃσι, ἄγῃσι, etc., but here the iota subscript points to an extension of the proper ending by an external addition. The ending is almost confined to the Homeric poems and exists side by side with the normal -ῃ.

In the thematic conjugation we have the ending -ει in the Pres., e. g. φέρει, Sanskrit *bhára-ti*. The corresponding form to the Sanskrit would in Greek be φερετι, and this according to rule would pass to φερεσι. But φέρεις, φέρει seem to have secondary endings, -ς, -τ with preceding ι like optat. φέρο-ι-ς, φέρο-ι-(τ).

(2) Secondary ending originally -τ:—ἔφερε(τ), Sanskrit *ábharat*; φέροι(τ), Sanskrit *bháret*.

The *t* remains in Latin (e.g. *erat*), but according to rule has disappeared in Greek. Latin has -*t* in the perfect *cecidit* where Greek has only -ε, as in οἶδε, Sanskrit *véda*.

The ending of the third sing. of the sigmatic aorist is -ε, just as in the third sing. of the perfect. Thus ἐδεικ-σε (ἔδειξε), is like the perfect οἶδ-ε, and has not the same vowel as ἐδεικ-σας (ἔδειξας).

First Person Plural.

The ending in Attic in both primary and historical tenses is -μεν. In Doric we find the ending -μες. In Sanskrit we have primary -*mas*, secondary -*ma*. First plur. act.

The Sanskrit -*mas* and the Latin -*mus* appear to point to a primary ending in *s*. In both Greek and Latin there is but one ending for all tenses.

Second Person Plural.

Primary and Secondary ending -τε. Sanskrit has primary -*tha*, secondary -*ta*. Second plural.

In the perfect -θε is the ending immediately after the full root, e.g. Epic κέκραχ-θε. Elsewhere we have -τε, e.g. πεπόνθα-τε.

Third Person Plural.

Third plural.

(1) Primary endings:

(*a*) -ντι, I.-E. *-nti*, e.g. Doric φέρο-ντι, Att. φέρουσι, Sk. *bhára-nti*. In Homer we have τιθεῖσι (τιθε-ντι), διδοῦσι (διδο-ντι).

(*b*) -αντι, -ᾱσι, I.-E. *-n̥ti* accented, e.g. Epic ἴ-ᾱσι, Att. ἴ-ᾱσι, Sk. *s-ánti*, *y-ánti*, ἀγνύ-ᾱσι, μεμά-ᾱσι. As hiatus was not admissible in the original language, the hiatus of the Greek forms seems to point to -σᾱσι as the original ending, as in ἴσᾱσι for ἰδ-σᾱσι, and εἴξᾱσι for εἰκ-σᾱσι. Sanskrit has *vidús*, as against Gk. ϝιδ-σᾱσι. It may therefore be that in the perfect -σᾱσι has replaced a shorter ending -σι, e.g. ἰδ-σι. If so the longer ending is due to the analogy of ἴ-ᾱσι, ἴ-ᾱσι, which have also provided the type for Att. τιθέ-ᾱσι, διδό-ᾱσι.

(*c*) -ᾰτι, -ᾰσι, I.-E. *-n̥ti* unaccented. Homer has λελόγχ-ᾰσι, πεφύκ-ᾰσι, and there is a Doric form ἐθώκ-ᾰτι. But this is an unusual ending for the perfect, and is formed probably on the analogy of -ᾰται of the middle, e.g. τετεύχ-αται. See p. 126. If -σι were the original ending in the perfect, πεφύκ-ᾰσι could stand for πεφυξι with α of the perfect intruded. Cf. p. 138.

(2) Secondary endings:

(*a*) -ν(τ), I.-E. *-nt*, ἔφερο-ν, Lat. *era-nt*.

(*b*) -αν(τ), I.-E. *-n̥t*, ἔλυσ-αν.

From Non-thematic verbs we have the Homeric ἔσταν, ἔβαν, ἔφαν, etc.

The optative ending is -εν, e.g. εἶ-εν, but an earlier -αν is justified by the Elean ἀποτίνοι-αν, συνέ-αν, and the so-called Aeolic aorist optative, e.g. τίσει-αν. The ending -εν may have been assimilated to the quality of the vowel in εἴ-ην, εἴ-ης, or followed the analogy of the aor. ἐφάν-ην, ἐφάν-ης, pl. ἔφαν-εν.

The ending -σαν appears in the strong aor. ἔβη-σαν (ἔβην), ἔθε-σαν, ἔγνω-σαν, in the optat., as in Epic σταίησαν and εἴη-σαν, and in late forms like ἐλάβο-σαν, and is probably due to the analogy of the sigmatic aorist, e.g. ἔλυσ-αν. It also appears in the plupf., e.g. Epic τέθνασαν, and in the aor. pass.

For the 1st pers. dual Greek has no separate form. The active dual endings.

For the second and third we have primary **-τον**, **-τον**, secondary **-τον**, **-τᾱν** (**-την**).

The primary endings of the Sanskrit *-thas*, *-tas* have no resemblance to the Greek, but the secondary *ábhara-tam*, *ábhara-tām* answer to **ἐφέρε-τον**, **ἐφερέ-την**.

In Homer there are three instances (**διώκε-τον**, **ἐτεύχε-τον**, **λαφύσσε-τον**) of a 3rd dual impf. in **-τον**. On the other hand the use of the termination **-την** for the second pers. is common in Greek.

The Middle Endings.

Primary **-μαι**, Secondary **-μᾱν** (**-μην**). First sing. midd.

In Sanskrit the ending is **-ε**, e.g. *bháre*. Greek has adopted for all verbs the ending **-μαι**, which seems non-thematic; Sanskrit the ending *-e*, which seems thematic.

Second Person Singular.

Primary **-σαι**, e.g. non-thematic **ἵστα-σαι**, thematic **φερε-σαι**, **φερε-αι**, **φέρῃ**, Sk. *bhára-se*. Second sing. midd.

Forms like **βούλει**, **οἴει** cannot come from **βουλεσαι**, **οἰεσαι**: they are perhaps active forms in **-εσι** transferred to the middle.

Secondary **-σο**, e. g. **ἐφερε-σο**, **ἐφερεο**, **ἐφέρου**.

Between two vowels *s* should by rule disappear, as it does in **ἐλύσω** for **ἐλυσασο**, but in some cases we find it retained, e.g. **πρίασο**, **δίδοσαι**, etc., and Epic **δύνασαι**, **μέμνησαι**, on the analogy of stems ending in a consonant, as in **γέγραψαι**.

Third Person Singular.

Primary ending **-ται**, Sanskrit *-te*:—**φέρε-ται**, Sanskrit *bhára-te*. Third sing. midd.

Secondary ending **-το**, Sanskrit *-ta*:—**ἐφέρετο**, Sanskrit *ábharata*.

First Plural Middle.

First plur. midd.

Termination *-μεθα*, Sanskrit *-mahe*. There is also in Greek the form *-μεσθα*, which appears in Epic *ἱκόμεσθα*, *γενόμεσθα*, etc., and in Tragic poetry.

Second Plural Middle.

Second plur. midd.

Termination *-θε*, e. g. *ἦσ-θε*. We find in Sanskrit, *-dhve* for primary, *-dhvam* for secondary ending. There is an unexplained difference between the final vowel in Greek and Sanskrit.

The *σ* of *-σθε*, as in *φέρε-σ-θε*, is not original. Originally appearing only in stems ending in *σ* or a dental, it has passed by analogy into all other stems. Thus in *ἦσ-θε*, *λέλησ-θε* the *σ* is regular, but not so in *λέγε-σ-θε*, *φέρε-σ-θε*.

Third Plural Middle.

Third plur. midd.

(1) Primary endings *-νται*, *-αται* (*-n̥ται*):—*φέρο-νται*, Sanskrit *bhárante*; *εἵ-αται* (*ἧαται*), Sanskrit *ásate*.

The rule is that *-αται*, *-ατο* should appear after consonants and *ι* and *υ*, but *-νται*, *-ντο* after vowels.

Thus from pf. stems ending in a consonant we have *τετάχ-αται*, *τετράφ-αται*, and after *ι* the Epic *κεκλί-αται*, *κεί-αται* (*κέα-ται*), but also *βεβλή-αται*. In Doric *γεγράψαται* there is an ending *-σαται*, which may be compared with the *-σασι* of *εἴξᾱσι*.

(2) Secondary ending, *-ντο*, *-ατο* (*-n̥το*):—*ἐφέρο-ντο*, Sanskrit *ábharanta*; *εἵ-ατο* (*ἧατο*), Sanskrit *ásata*.

Apart from the Indicative, *-ατο* appears as ending of the Optative Mood, e. g. *γενοίατο*, *ἀπολοίατο*. This ending is regular in Homer.

Before *-αται*, *-ατο* gutturals and labials were aspirated, e. g. *ἐτετάχ-ατο*, *τεθάφ-αται*, but not dentals, as in *κεχωρίδ-αται*, *ἀγωνίδ-αται*.

First Dual Middle.

First pers. dual midd.

The ending *-μεθον* of the first pers. dual is only sparingly used. The form bears no resemblance to the Sanskrit *-vahe*, *-vahi*, but is like the 1st pers. plural *-μεθα*.

Second and Third Dual Middle.

Primary, -σθον, -σθον. Secondary, -σθον, -σθᾱν (-σθην). These do not resemble the Sanskrit. We cannot therefore reconstruct the original form, nor determine the analogy upon which these forms arose in Greek. 2nd and 3rd dual.

The name *Augment* is a translation of αὔξησις, and is applied to the sign of past time in the *Historical* tenses of the Indicative. The Augment is either (1) *Syllabic*, appearing as ε prefixed in verbs which begin with a consonant; or (2) *Temporal*, where the initial vowel of a verb is lengthened. It appears in Sanskrit as well as in Greek. It is to be regarded as originally a separate prepositional word expressing priority, which in course of time was combined with the verb into a single word, e.g. I.-E. *é leiqom*, is in Greek ἔλειπον. Even in Greek there are signs that the augment could be detached from the verb. In Homer the syllabic augment is often omitted, e.g. βῆ for ἔβη: in Herodotus the temporal augment, e.g. ἔρξαν for εἶρξαν. Augment.

The Augment was also originally accented, signs of which are that all augmented forms are barytone and the rule of Greek compounds by which the accent does not pass back beyond the augment, e.g. παρ-έσχον.

Where the stem of the Verb begins with a vowel we have the *Temporal Augment*, e.g. ἦγον. We need not suppose that the contraction of ε with the vowel of the verb-stem took place within the limits of Greek. The Attic ἦν (*erat*), Dor. ἦς, Old Sanskrit *ās*, come from an original I.-E. *é est*, and, as εε contracts in Greek into ει, the contraction into η must be regarded as prehistoric. Upon the analogy of ἦν, etc., a lengthening of the quantity of the initial vowel came to stand for the Temporal Augment, e.g. from ὄρνυμι we have ὦρτο, whereas ἐ-ορτο would contract in Greek into οὗρτο, and from ἱκετεύω we have ἱκέτευον, not εἱκετευον. Where ε remains Temporal augment.

before a vowel it is due to the loss of an original consonant, e.g. ἐάγη for ἐ-ϝαγη, εἶδον for ἐ-ϝιδον, εἵπετο for ἑ-σεπετο, εἷρπον for ἑ-σερπον: in the last two σ, though not originally initial, has passed into the rough breathing.

In some cases, e.g. ᾤκησα from ϝοικέω, the initial consonant has been forgotten.

We sometimes find η- as the syllabic augment, e.g. in ἠ-δυνάμην, ἤ-μελλον, ἠ-βουλόμην. This η- may be assumed in ἑ-ώρων for ἠ-όρων and ἑ-ἁλων for ἠ-ἁλων, where there has been metathesis of quantity as in βασιλέᾱ for βασιλῆα. In the perfects ἑόρακα, ἑάλωκα, which do not have an augment, there is naturally no trace of η.

The Augment η- may also be assumed in ἠργαζόμην for ἠϝεργαζομην, and ᾔκαζον for ἠϝεικαζον, as compared with the perfects εἴργασμαι, εἴκασμαι.

Where the verb is compounded with a preposition the augment comes after the preposition, e.g. ἐν-ῆγον, and sometimes where the preposition is only apparent, e.g. ἐν-ηντιώμεθα, formed from the noun ἐνάντιος.

In some cases there is double augmentation, e.g. ἠνειχόμην, κατ-ε-δῄτων, ἠμφεσβήτουν.

Tense-Stems.

We now pass on to the various *Tense-Stems* of the Verb. It is the stem which is the constant element in a group of related forms. The termination indicates differences of person and number, and also the distinctions of voice which express the relation borne by the subject to the action, the difference, that is, between Active, Passive, and Middle. Differences of Tense (χρόνοι) are expressed by varieties of Tense-stem, while to express Modality a suffix is added to the Tense-stem.

Present and Strong Aorist Stems.

The first group of Tense-stems consists of the *Present* and *Strong Aorist* stems. The tenses with present-stem, viz. Present and Imperfect, imply continuous state or action, the

Aorist signifies a single act or event. Though different in meaning they are similar in form. Thus ἔφην is an imperfect while ἔστην is an aorist; ἔγραφον is an imperfect, ἔτραπον is an aorist, yet in each case the formation is the same. The term *Present-stems* therefore can embrace the whole class.

Present Stems.

Present-stems may be divided into—I. *Non-Thematic*, II. *Thematic*.

I. Of Non-Thematic there are four classes:

(1) Root-class, (2) Reduplicated class, (3) Weak root with suffix νῠ, (4) Weak root with suffix νᾰ.

II. Of Thematic there are five classes:

(5) Root and thematic -ο, -ε, (6) Root and -ιο, -ιε, (7) Root and -το, -τε, (8) Root and -σκο, -σκε, (9) Nasal class.

In Sanskrit there are ten Conjugation Classes distinguished according to the formation of the Present-stem. Answering to the distinction of Non-thematic and Thematic in Greek we find in Sanskrit (1) Verbs with stem-variation, the stem being sometimes strong and accented, at other times weak and unaccented; (2) Verbs with present-stem ending in *a* where the accent is not shifted from the stem to the ending. In Greek, Non-thematic stems shew a variation of the stem, though this is not accompanied by shifting of the accent. The strong stem appears in the active singular, the weak in the active plural and throughout the middle.

1. The Root Class.

(1) The Root Class, where root and verb stem are the same.

(*a*) In some verbs of this class we have stem-variation, e.g. εἶ-μι, ἴ-μεν, Sk. *é-mi*, *i-más*. In εἰ-μί (=ἐσ-μι) we have ἐσ- throughout in Greek, except in the 1st sing. where it changes to εἰ- before μ: in Sanskrit we find *ás-mi*, plur. *s-más*. Greek then is without the original stem-variation. In the imperat.

ἵ-σ-θι we have the weak stem *σ-*, but the original *s-dhi*, pronounced *z-dhi*, has had an *ι* prefixed in Greek. Other instances of stem-variation are √*φᾱ*, *φη-μί*, *φᾰ-μέν*; √*φθᾱ*, *ἔ-φθη-ν*, *φθᾰ́-μενος*; √*χευ*, *ἔχεα* (= *ἐ-χεϝ-α*), *χῠ́-μενος*. The tense *ἔχεα* should originally have run *ἐ-χεϝ-m̥*, *ἐ-χευ-ς*, *ἐ-χευ-τ*, plur. *ἔ-χυ-μεν*, etc., but *ἐχεα-* has been taken as the stem and extended throughout in *ἔχεα*, *ἔχεας*, etc.

(*b*) No stem-variation is to be found in *ἔ-γνω-ν ἔ-γνω-μεν*, *ἔ-φῡ-ν ἔ-φῡ-μεν*, or in the stems of *ζῆ-θι*, *χρῆ-σθαι*, *ἔ-δρᾱ-ν*, *πλῆ-το*, and others.

2. The Reduplicated Stems. (2) The Reduplicated Non-thematic Present-stems have *ι* as the vowel of reduplication. Stem variation is shewn in *ἵ-στη-μι*, *ἵ-στᾰ-μεν*; *τί-θη-μι*, *τί-θε-μεν*; *δί-δω-μι*, *δί-δο-μεν*. Answering to the Sanskrit forms *daḍh-más*, *dad-más*, we might expect in Greek *τιθ-μεν*, *διδ-μεν*, but we find a connecting vowel of the same quality as the vowel of the singular between stem and ending. The 3rd plurs. *τιθέ-ᾱσι*, *διδό-ᾱσι*, Ion. *τιθεῖσι*, *διδοῦσι*, have been already explained (p. 124). Stem-variation is also to be found in *πίμ-πλη-μι*, *πίμ-πλᾰ-μεν*. In Sanskrit we have *pi-par-mi*, which would be represented in Greek by *πι-πελ-μι*. The *πλη-* of *πίμπλημι* is due to the analogy of the aor. *ἐ-πλή-μην*. No variation appears in *κί-χη-μι*, *δίζημαι* and others.

3. Stems with suffix *-nu*. (3) The third class of Present-stems consists of the weak root and suffixes *neu̯*, *nu*. In Sanskrit we have *sa-nó-mi*, *sa-nu-más*, but in Greek the variation is *νῡ-*, *νῠ-*, e.g. *δείκ-νῡ-μι*, *δείκ-νῠ-μεν*, instead of *δεικ-νευ-μι*, *δείκ-νῠ-μεν*. The suffix *νευ̯-* appears only in the thematic verbs, e.g. *κινέω* (= *κι-νεϝ-ω*), beside *κί-νῠ-ται*, with weak suffix. In the third plural *υ* remains with hiatus before the ending, e.g. *ἀγνύ-ᾱσι* (= *ϝαγ-νυϝ-αντι*), cf. Sk. *çak-nu-vanti*. Had *υ* become consonantal we should have had *ϝαγνϝ-αντι* = *ἀγνᾶσι*. The third class of

present-stems is mostly poetic, except *δείκ-νυμι*, *ζεύγ-νυμι*, and *ὄμ-νυμι*.

The verbs in *-αννυμι*, *-εννυμι* are post-Homeric, e.g. *κερ-άννυμι*, *στορ-έννυμι*, etc., which have been formed on the analogy of *ἕν-νυ-μι* (= *ϝεσ-νυμι*). In Attic, *ἑσ-νυμι* should pass to *εἱ-νυμι*, as *σν* passes to *νν* only in the Aeolic dialect. However, in place of the regular Attic combination *ν* with lengthening of the vowel we have the Aeolic *-νν-* in *ἀμφιέννυμι*, *ζώννυμι* (= *ζωσ-νυμι*), *σβέννυμι* (= *σβεσ-νυμι*), which shews that the law that *-σν-* passed to *ν* with lengthening of the vowel had ceased to operate at the time of the formation of these verbs. On the analogy of *ζώννυμι* were formed later *ῥώννυμι*, *στρώννυμι*, and on the analogy of *ἀμφι-έννυμι*, *σβέννυμι* were formed *πετάννυμι*, *κορέννυμι*. The word *ἀμφιέννυμι*, as we see from the augment of *ἠμφίεσα*, was looked on as a simple verb.

As with *σν*, so with *σμ*: in Attic the *σ* should be dropped with compensatory vowel lengthening, and so *ἑσ-μαι* becomes *εἷ-μαι*. But *σ* has been restored in *ἠμφίεσ-μαι*, *ἔσβεσ-μαι*, *ἔζωσ-μαι* on the analogy of forms in which it has been regularly retained, e.g. *ἠμφίεσ-ται*, etc.

(4) *The Fourth Class of Present Stems* add *νᾱ*, *νᾰ* to the root, and are mainly confined to Homer:— 4. Stems with *nā*, *nă*.

δάμ-νᾱ-μι, *δάμ-νᾰ-μεν*, cf. Sk. *çṛ-nā-mi*, *çṛ-nī-más*, where *ī* answers irregularly to Gk. *ᾰ*.

These verbs are mostly non-thematic, but sometimes pass over to the thematic conjugation, e.g. *πίτ-νη-μι* becomes *πιτ-νά-ω*.

Under non-thematic stems we must note the stems of the passive aorists in *-ην*, *-θην*. The aorists passive in *-ην* mostly have the weak form of root and are peculiar to Greek. Their person-endings are active in form, their meaning intransitive or passive. The passive has arisen out of the intransitive meaning. Thus in Attic Greek the intrans. *ἀποθανεῖν* is used as the passive of *ἀποκτείνω*, and *γίγνομαι* as the pass. of *ποιέω*. Similarly the aorists in *-ην* have passed from an intransitive Passive Aorists.

to a passive meaning, and from the active to the passive voice. The passive aorists ἐφάν-ην and ἐκόπ-ην are similar in form to the active ἔστη-ν, and it was upon the model of such aorists as ἔστην that the passive aorists were formed. Of similar formation, though with a vowel of different quality, are the aorists ἐβίων, ἑάλων, ἐγήρᾱν, ἔδρᾱν.

The aorists in -θην are different. These forms are not modelled on the active but are closely related to the middle voice. Thus side by side, and with the same meaning, we find in Homer δυνάσθη, δυνήσατο—ἐμνήσθην, ἐμνησάμην—ὡρμήθην, ὡρμήσατο—while in Attic ἐβουλήθην, ἐδεήθην, ἐπορεύθην have the use and meaning of the middle. Moreover the second singular ending -θης answers to second singular *-thās* of the aorist middle in Sanskrit. From this ending -θης the θ was extended by analogy to other persons. Thus we may assume a middle aorist in Greek ἐδό-μην, ἐδό-θης (Sk. *ádi-thās*), ἔδο-το (Sk. *ádi-ta*) from which were formed two tenses, the middle aorist (ἀπ)-εδό-μην, -έδου, -έδο-το, etc., and the passive ἐδό-θην, -θης, -θη, etc. The aorist in -θην was assimilated to the aorist in -ην both in form and meaning. The ending -σ-θην properly belongs only to stems ending in σ or a dental.

Thematic Present-stems.

In Sanskrit the thematic vowel is *a*; in Greek it is ο before nasals, elsewhere ε, a variation which must be regarded as original. In Sanskrit the person-endings are the same in thematic as in non-thematic verbs; in Greek thematic have primary ending -ω, -εις, -ει, non-thematic -μι -σι, -τι.

In Greek we sometimes have the thematic ε even before a nasal in the infinitive forms, such as ἀρχέ-μεναι, φερ-έ-μεν, ληγ-έ-μεναι, and in participial forms such as βέλ-ε-μνον, τέρ-ε-μνος.

5. Stems with simple thematic vowel.

(5) *The Fifth Class of Present Stems* is formed by the addition of the thematic vowel to the strong root, e.g. in πλέκ-ω, δέρκ-ομαι, πέμπ-ω, λείπ-ω, φεύγ-ω, ἥδ-ομαι: to the weak root, which is less common, in γράφ-ω, γλῠ́φ-ω, ἄγ-ω, λῐ́τ-ομαι, μάχ-ομαι, etc.

Originally there were two sets of present stems belonging to this class. (1) Full root accented paroxytone, e.g. Sk. *bhár-a-*, φερ-ε-. (2) Weak root accented oxytone, e.g. Sk. *tud-á-*. To this last correspond in Greek the presents γρᾰ́φ-ω, γλῠ́φ-ω, etc., which have a weak root. Their accentua-

tion, however, has been assimilated to that of present stems with the full root, and the oxytone accentuation is only to be found in aorists like λακ-εῖν, δικ-εῖν.

If there were a λακ-ω, δικ-ω, these would be presents like γράφ-ω, γλύφ-ω. Such forms may be called *Aorist Presents*, because though they have the accentuation of the present, they have the weak root of the aorist. We must note, on the other hand, in the aorists ἐλθ-εῖν and γεν-έσθαι that they have the full root combined with the accentuation of the aorist.

Reduplicated thematic present stems of this class are γί-γν-ο-μαι, μί-μν-ω, ἴσχω (= σι-σχ-ω), τίκτω (= τι-τκ-ω), etc. The vowel of reduplication is ι. With so-called Attic reduplication we have the Attic aorist ἤγ-αγ-ον, and in Homer there are more, e.g. ἄλ-αλκε, ἤρ-αρε, etc. With ε as vowel of reduplication we have κε-καδών, τε-ταγών, ἐ-πέ-φν-ομεν.

(6) *The Sixth Class of Present Stems* consists of the root and the suffixes -ι̯ο-, -ι̯ε- answering to Sk. *-ya*. 6. Stems with ι̯ο, ι̯ε.

The suffixes are added on

(1) to roots ending in gutturals, e.g. δράσσομαι (=δραχ-ι̯ο-μαι, cf. δραχ-μή), τάσσω (=ταγ-ι̯ω, cf. τάξις), σφάζω (=σφαγ-ι̯ω, cf. σφαγ-ή).

(2) To roots ending in a nasal, in which case there is epenthesis of ι, e.g. μαίνομαι (= μαν-ι̯ο-μαι), φαίνω, καίνω, etc. and with strong root κτείνω (=κτεν-ι̯ω).

(3) To roots ending in a liquid, e.g. βάλλω (=βαλ-ι̯ω), ἅλλομαι (=ἁλ-ι̯ο-μαι), and with strong root φθείρω (=φθερ-ι̯ω), and στέλλω (=στελ-ι̯ω).

(4) The root is sometimes reduplicated, e.g. with ι in τιταίνω (= τι-ταν-ι̯ω): with other reduplication in παι-πάλλω, ἀ-ίσσω (= ἀ-Ϝικ-ι̯ω), etc.

The *Denominative* verbs form their present stem by adding -ι̯ο-, -ι̯ε- to a nominal base, e.g. τιμά-(ι̯)ω, φιλέ-(ι̯)ω, μηνί-(ι̯)ω, δακρύ-(ι̯)ω. Later formations are the denominatives in -οω, e.g. χρυσό-(ι̯)ω, and -εύω, e.g. βασιλεύ-(ι̯)ω. Denominatives.

The Aeolic κάλημι, ὄρημι, φίλημι, φιλείην, φίλεις may seem to shew that these denominatives belonged to the -μι conjugation. But these forms are due to the analogy of such verbs as ἄημι, κίχημι, etc. On the analogy of ἄημεν rose φίλημεν, on the analogy of κιχείην rose φιλείην, and similarly with the forms φιλῆναι, φιλήμενος.

Other denominatives are θωρήσσω (=θωρηκ-ιω), τεκταίνω (=τεκτη̥-ιω), τελέω (=τελεσ-ιω), ἐλπίζω (=ἐλπιδ-ιω).

In many cases the proper form of the nominal stem is ignored, e.g. from κέρδος comes κερδη̥-ιω = κερδαίνω, from ἄριστον comes ἀριστά-(ι)ω, from μάντις comes μαντεύ-(ι)ομαι, from νόμο-ς comes νομιδ-ιω = νομίζω. These formations are due to the analogy of other verbs, e.g. νομίζω to the analogy of ἐλπίζω (ἐλπιδ-), μειλίσσω (μειλιχο-) to that of κηρύσσω (κηρυκ-). Partly too the neglect of the nominal stem is due to the fact that certain endings had a definite meaning. Thus verbs in -οω are causative, verbs in -αω denote a state, and so *to make a bridge* is γεφυρ-όω, in spite of γέφυρα-. Verbs in -ευω imply behaviour after the fashion of the subject denoted by the stem, e.g. βασιλεύ-ω 'to behave like a βασιλεύ-ς,' and so in spite of ἄρχων, ἱκέτης, we have ἀρχέυ-(ι)ω, ἱκετεύ-(ι)ω. Sometimes there are two nominal stems, e.g. in the Homeric ἡνίοχο-ν, ἡνιοχῆα (=ἡνιοχηϝ-α), the latter of which gives a stem ἡνιοχευ- for ἡνιοχεύω.

Causatives. There are other present stems of the sixth class made up of the *O*-degree of the root with suffixes -ειο-, -ειε-, answering to Sk. *-áya-*, e.g. φοβ-έ(ι)ω, φορ-έ(ι)ω, etc. These verbs are causative in meaning, and are to be distinguished from denominatives in -εω, e.g. οἰκε-(ι)ω, where the ε belongs to the root.

7. Stems with *to*, *te*. (7) *The Seventh Class of Present Stems* is made up of the root and the suffixes -το-, -τε-. This class is connected closely with the Sixth. Thus a root ending in the labial π with the addition of the suffix -ιο- passes regularly into -πτο-, e.g. ἀστραπ-ιω ἀστράπ-τω. Wherever then the root ends in π the

suffix -το- can be referred to -ιο-, e. g. χαλέπ-τω, σκάπ-τω, τύπ-τω. Where the root ends in other consonants (e. g. in a guttural in πέπ-τω √*peq* Lat. *coquo*, in β in βλάπ-τω cf. βλάβ-η, in φ in βάπ-τω cf. βαφ-ή), we cannot refer the suffix -το- to -ιο-. Possibly βλάπ-τω, καλύπ-τω, βάπ-τω, κρύπ-τω have been formed on the analogy of τύπ-τω. The similarity of the aorists ἔβλαψα, ἔκρυψα, ἔτυψα led to a similarity of the presents as well, just as the similarity of ἔσφαξα (σφάζω) and ἔφραξα (φράττω) led to the formation of a later present σφάττω to replace σφάζω. In some verbs we have to assume the suffix -το- as original, e. g. in νίπ-τω, ἐνίπ-τω, πέκ-τω.

The verb σκέπ-τομαι seems to have come by metathesis from σπεκ-ιομαι, Lat. *spec-io*, Sk. *páç-yā-mi*.

(8) *The Eighth Class of Present Stems* consists of the root (weak) and the suffixes -σκο-, -σκε-, e. g. βά-σκω, φά-σκω, βό-σκω. The same suffix comes in the denominatives γηρά-σκω, ἀρέ-σκω, μεθύ-σκω, and in the iterative preterites of Ionic Greek, e. g. φεύγε-σκε, αὐδήσα-σκε, etc. The Attic θνῄ-σκω, θρῴ-σκω, μι-μνῄ-σκω have added an iota on the analogy of verbs in -ισκω, e. g. εὑρ-ίσκω, ἀλ-ίσκομαι. The origin of the ι is unexplained. 8. Stems with *sko, ske.*

The suffixes -σκο-, -σκε- are added to reduplicated roots in γι-γνώ-σκω, βι-βρώ-σκω, δι-δά-σκω for δι-δαχ-σκω, ἐ-ί-σκω for ἐ-ϝίκ-σκω (cf. ἴκ-ελος *like*).

(9) *The Ninth Class of Present Stems* is made up of the root with the suffixes -νο-, -νε-, e. g. δάκ-νω. This class is the counterpart of the non-thematic fourth class. 9. Stems with *no, ne.*

The root if short by nature and position is nasalised, and the suffixes are -ανο-, -ανε-, e. g. λανθ-άνω, λιμπ-άνω, ἀνδ-άνω, λαμβάνω, etc. In ληθ-άνω the root is full and not nasalised, and we have the weak root without a nasal in ἁμαρτ-άνω, αἰσθ-άνομαι, βλαστ-άνω.

In other verbs the suffixes are -νϝο-, -νϝε-, e. g. φθα-νϝω, φθι-νϝω, in Homer φθᾱ́-νω, φθῑ́-νω, in Attic φθᾰ́-νω, φθῐ́-νω.

The existence of the ϝ (u̯) is shewn by a comparison of ἄνω (= ἀνϝω) and ἤνυτο, φθινϝω and φθι-νύ-θω, τινϝω and τι-νύ-μεναι.

The Perfect.

The Perfect. The stem of the Perfect appears in Greek in all the Moods of the Active and Middle Voice, and also in the Pluperfect Indicative. It is characterised by special Person Endings (p. 122) and reduplication of the Stem. There are also traces of an original variation of the stem, which was strong in the singular and weak in the plural.

Reduplication. (1) In roots beginning with a single consonant, the syllable of reduplication consists of this consonant with ε, e.g. δέ-δορκα: or where the root begins with an aspirate, of the corresponding tenuis with ε, as in τέ-θεικα.

(2) Where the root begins with a Mute and a Nasal or Liquid, the first consonant with ε is the syllable of reduplication, as in γέ-γραπται, τέ-θνηκα. To this ἔγνωκα is a constant exception, and ἐβλάστηκα beside βεβλάστηκα. In Cretan inscriptions ἐγραμμένος is found.

In other cases of two initial consonants it was usual to prefix ε only, as in ἔκτημαι (κέκτημαι is also found), ἐζευγμένος, ἔψευσμαι. Stems beginning with ρ prefix ε, after which ρ is doubled, e.g. ῥήγνυμι, ἔρρωγα.

(3) Where the root began with a single spirant, in Homer we have ε for reduplication, as in ἐ-ελμένος for ϝε-ϝελμενος, and so too in ἔ-οικα and ἔ-ολπα. In Attic we have the ε in ἑάλωκα, ἔοικα, ἀνέῳγμαι.

(4) An εἰ- appears in εἴληφα, εἴληχα, which resemble εἴρηκα from √ϝερ. The regular forms appear in the Ionic λελάβηκα, λέλογχα.

(5) Where the root began with a vowel we find the reduplication represented either by a long vowel, as in ἤσκηται, or else by the so-called Attic reduplication.

The Attic reduplication, especially common in Homer, consists in taking the initial vowel of the root with the following consonant as a syllable of reduplication, e.g. *ὄδ-ωδα.*

This reduplication is regular where the vowel of the root is short, e.g. *ἀρ-ἄρ-υῖα, ἀκ-ἄχ-μένος.* In Attic we have *ἀκ-ήκοα, ἐδ-ήδοκα, ἐλ-ήλυθα, ὄλ-ωλα,* and others. This mode of reduplication was originally confined to a few forms, then extended by analogy. Thus from √*ed* we have in Homer *ἐδ-ηδώς*, but the Sk. perfect is *ā́da*, Lat. *ēdi.*

In *οἶδα* (=*ϝοιδα*), Sk. *vḗda*, there is no sign of reduplication. Perfect forms without reduplication are also found in the Homeric *δέχαται, ἔρχαται.*

Originally the stem of the perfect varied between a full form in the singular active and a reduced form elsewhere. Thus we find in Homer— Variation of stem.

Sing.	Plur.
οἶδ-α, Sk. *vḗd-a*	*ἴδ-μεν*, Sk. *vid-mā́.*
ἔ-οικ-α	*ἐ-ίκ-την.*
γέ-γον-α	*γέ-γα-μεν* (= *γε-γn̥-μεν*).
μέ-μον-α	*μέ-μα-τον* (= *με-μn̥-τον*).
-ε-φθορ-α	*ἔ-φθαρ-μαι* (*ἐ-φθr̥-μαι*).

This variation of the stem was originally accompanied by a shifting of the accent (p. 77), but this shifting was not maintained in Greek. The stem was for the most part made uniform throughout in Attic. Thus in *ἔοικα* the original **ἐ-ικ-μέν* was replaced by *ἐ-οίκ-αμεν*, poet. *ἔοιγμεν*, while instead of *εἰλή-λουθ-α*, pl. **εἰλή-λυθ-μεν*, we have in Attic the weak stem in *ἐλήλυθα, ἐληλύθαμεν.*

The proper vowel of the root in the perfect was *ο*, as in *λέ-λογχ-α, δέ-δορκ-α, δι-έ-φθορ-α*, but this has often been replaced by *ε*, as in *πέ-φευγ-α, πέ-πεισ-ται, λέ-λειπ-ται,* etc.

In the participle active we find a variation of the stem between the masculine and the feminine, which is due to the

original ϝ (u̯) in the masculine. Thus in Homer we have Masc. εἰδ-ώς (= ϝιδ-ϝως), Fem. ἰδ-υῖα. Masc. ἀρ-ηρώς (for ἀρ-ᾱρως = ἀρ-ἄρ-ϝως), Fem. ἀρ-ἄρ-υῖα. Masc. τε-θηλ-ώς (= τε-θἄλ-ϝως), Fem. τε-θἄλ-υῖα. This distinction however did not remain. Thus in the Homeric τε-τλη-υῖα, πε-πληγ-υῖα, the strong form of the masc. has intruded.

Stem in later Greek.

The Perfect has an intrusive α which shews itself between the stem and the ending. In some persons the ending was originally added on directly, as we see from ἴδ-μεν, ἐ-πέ-πιθ-μεν in the active and πέ-πυσ-μαι, πε-φυγ-μένος in the middle. In Attic Greek the vowel α which appears in the 1st and 2nd pers. sing. was extended to the plural. Thus in Homer we have γέ-γον-α, pl. γέ-γα-μεν (= γε-γn̥-μεν), but in Attic γέ-γον-α, pl. γε-γόν-α-μεν. In Sanskrit we find an *i* used as the connecting vowel between the stem and the ending. Sometimes it is difficult to say whether α is part of the root or a connecting vowel, e.g. ἕστἄμεν may be divided ἕ-στἄ-μεν or ἕ-στ-ἄ-μεν.

The tendency of later Greek is to make the stem uniform throughout. Thus from τέ-τοκ-α we have pl. τε-τόκ-α-μεν. Rules of sound combination are broken. For instance, σμ should by rule be simplified to μ, but πε-πυθ-μαι has been changed to πέ-πυσ-μαι on the analogy of πέ-πυσ-ται, ἴδ-μεν to ἴσ-μεν on the analogy of ἴσ-τε, and ἠμφίεσ-μαι, τετελέσ-μενος, ἐζῶσ-μεθα are due to similar analogies. On the other hand εἶ-μαι and γε-γευ-μένος are regular for ἑσ-μαι, γεγευσ-μενος (cf. p. 70).

Aspirated Perfects.

The aspirated perfects belong almost entirely to later Attic Greek. In Herodotus ἐπεπόμφεε is the only aspirated perfect act.; in the Tragedians ἀνατέτροφας and in Thucydides πέπομφα are the only instances. In succeeding writers these perfects are numerous.

Except in late Attic, aspiration is practically confined in the perfect to guttural and labial stems in the 3rd pl. perf.

midd., e.g. √ ταγ ἐτετάχ-ατο, √ τρεπ τετράφ-ατο. No stem ending in a dental shews aspiration, e.g. ἐσκευάδ-ατο.

From the 3rd pl. perf. midd. the aspiration passed to the active voice, and from ἐτετάχ-ατο came τέταχ-α, from τετρίφ-αται came τέτριφ-α.

Why there is aspiration in the 3rd pl. perf. midd. is not clear. It is not due to the endings -αται, -ατο. It must be based on the analogy of those forms in which aspiration is regular, e.g. from √ τριβ we have τέτριφ-θε = τετριβ-θε by Greek phonetic law, and from √ ταγ τέταχ-θε = τεταγ-θε. Upon the analogy of these forms have come τετρίφ-αται, τετάχ-αται. In dental stems there would be no similar analogy, e.g. from √ σκευαδ we have ἐσκεύασ-θε for ἐσκευαδ-θε, which provides no model for aspirating the dental of ἐσκευάδ-ατο.

Perfect in -κα. The Perfect in -κα is a formation peculiar to Greek. Where the root of the verb ends in κ this perfect is explicable. Thus ὀλώλεκα will be the perfect of ὀλέκ-ω, δείδοικα may be referred to √ δϝικ- of δει-δίσσομαι (= δεδϝικ-ιομαι), and βέβηκα may be compared with βάκ-τρον. The aorist ἔθηκα (cf. θήκη) must be explained in the same way. The κ came to be regarded as part of the suffix and not as belonging to the stem, and so was added on to stems which contain no κ, e.g. ἔφθαρ-κα, and the aorists ἔδωκα, ἧκα. In Homer the perfect in -κα is rare.

The Pluperfect. The Pluperfect serves as an augmented preterite to the perfect. There are two main formations of the tense. (1) Where the Pluperfect has the perfect stem with augment and secondary endings, e.g. ἐ-τέτυκ-το. In Homer we find thematic ἐ-γέγω-νε, ἐ-μέμη-κον beside γέγωνα and μεμηκώς, and ἤνωγον beside ἤνωγα. Sometimes too the present perfect stem assumes thematic present endings, as in ἀνώγ-ει, ἥκ-ω, μέμβλ-ε-ται.

(2) Where the Pluperfect has the perfect stem, the augment, and the suffix -εα (= -εσα), Att. -η, in the first singular. Thus

ᾔδη = ᾔδεα = ἠδεσα = ἠ-ϝειδ-εσα, Sk. *á-ved-iṣam.* The weak η-ϝιδ- answering to strong ἠ-ϝειδ- appears in the dual and plural, e.g. ᾖσμεν = ἠ-ϝιδ-σ-μεν. In Attic Greek the proper endings of the singular are -η (for -εα), -ης (for -εας), -ει or -ειν (for -εε, -εεν). In Hellenistic Greek we have εἱστήκ-ειν, εἱστήκ-εις, εἱστήκ-ει. On the analogy of οἶσθα we have the Attic ᾔδησθα.

The 3rd pl. ending is -εσαν, e.g. ἐγρηγόρ-εσαν, but the ending is -σαν in ᾖ-σαν, Ep. ἴ-σαν, μέμα-σαν.

Sigmatic Aorist. The Sigmatic Aorist is an augmented tense characterised by the addition of σ to the root. Like the perfect it has an intrusive α before the person endings.

In Sanskrit the sigmatic aorists have secondary endings, e.g. *-sam, -sīs, -sīt.* In Greek the endings are the same as those of the perfect. In the plural the intrusive α has been extended, and for the sake of uniformity we have ἐδείξαμεν for ἐ-δεικ-σ-μεν. The third plural ἔ-δειξ-αν has not got the intrusive α: the ending is -αν, e.g. ἔδειξαν = ἐ-δεικ-σ-ṇ̥t. In Sanskrit we have *-us* as the 3rd plur. ending, which is the same as that of the perfect.

Many formations which appear to be 'Strong' aorists can be explained as sigmatic, e.g. δέκ-το for δεκ-σ-το as compared with the imperat. δέξο = δεκ-σ-σο, where σ has been retained before the vowel, and similarly λέκ-το for λεκ-σ-το beside λέξατο, and πῆκτο for πηκ-σ-το beside πῆξαι. Before a vowel σ would remain. Thus original ἐδεικ-σ-μεν would become ἐδειγ-μεν, but ἐδεικσ-αν remain ἔδειξαν. Thus it was that -σαν as in ἔθε-σαν was regarded as the 3rd plur. ending.

In Homer we have with the thematic vowel the sigmatic tense forms ἶξ-ον, βήσ-ε-το, οἶσ-ε-τε, ἐ-δύσ-ε-το. In sigmatic ἔπεσον we find the thematic ο and ε in place of the intrusive α. This corresponds with the *sa* aorist of Sanskrit, e.g. *ádikṣam*, which is declined throughout as an imperfect.

The double sigma of the Homeric aorists, καλέσσαι, ἐλάσσαι,

etc., is due to the analogy of stems ending in σ or a dental, e.g. ζέσ-σαι, τελέσ-σαι, ἐρέσ-σαι (ἐρετ-), χάσ-σατο (χαδ-), where double σ is regular. In Attic the σ is not doubled, e.g. καλέ-σαι, τελέ-σαι.

The Future.

The Future is formed in three ways:—(1) by adding the suffixes -σο, -σε to the verb stem, as in the active στή-σω, δώ-σω, Sk. *dā-syā́-mi*, in the middle πλεύ-σο-μαι, θή-σο-μαι. The suffixes are added to aorist stems in the passive μιγή-σομαι, φανή-σομαι, and to perfect stems in the active τεθνήξω, ἑστήξω, and passive γεγράψεται, εἰρή-σε-ται. The Future.

(2) An indeterminate vowel which appears in Greek as α, ε, or ο, precedes the suffixes, e.g. τεν-ῶ = τεν-ε-ω = τεν-ε-σω, Sk. *tan-i-ṣyā́-mi*. This vowel belongs to the root of the verb in ὀλ-ῶ = ὀλε-ω = ὀλε-σω, κρεμ-ῶ = κρεμ-αω = κρεμ-α-σω, ὀμοῦ-μαι = ὀμο-ο-μαι = ὀμο-σο-μαι.

(3) A third form of the future springs from a 'contamination' of the future in -σω and the future in -εω (-εσω). This we have in the so-called Doric futures φευξοῦμαι (φευγ-σεο-μαι), πλευσοῦμαι (πλευ-σεο-μαι), of which the correct Attic forms are φεύξομαι and πλεύσομαι. In Homer we have ἐσ-σεῖ-ται and πε-σέο-νται. In Doric before ο and ω we have -σι for -σε, e.g. in πραξίομες (πραγ-σιο-μες), just as θιός is Doric for θεός.

In the above classes it will be seen that σ is sometimes kept between two vowels, e.g. στή-σω, τιμή-σω, as in the sigmatic aorists, while in other futures, e.g. καλῶ (καλεσω), βιβῶ (βιβασω), βαδιεῖ (βαδισει) the σ disappears, though in the corresponding aorists, e.g. ἐκάλεσα, it remains constant. Without contraction σ is dropped in ἐρύ-ω (ἐρυ-σω), ἀνύ-ω (ἀνυ-σω) and in the Homeric τελέ-ω, κρεμά-ω, etc.

Conjunctive Mood.

(1) In Homer where the indicative tense is without a thematic vowel, then the conjunctive mood is marked by the thematic ο, ε, e.g.— The Conjunctive Mood.

Ind. ἆλ-το	Conj. ἄλ-ε-ται.
„ ἐρύσ-σα-μεν	„ ἐρύσ-σο-μεν.
„ ἐπέπιθ-μεν	„ πεποίθ-ο-μεν.

So in Sanskrit—

Ind. *hán-ti*	Conj. *hán-a-ti.*

Where the stem ended in a vowel contraction ensued. In the Homeric θή-ο-μεν, στή-ο-μεν there is no contraction, but we cannot look on these as original because such hiatus was inadmissible in the original language, as in Sanskrit.

(2) The conjunctive of tenses which in the indicative have a thematic vowel, e. g. presents like φέρ-ο-μεν, was marked by lengthening the suffixes ο and ε, e. g. φέρ-ω-μεν, φέρ-η-τε.

The Latin *ferā-* of the conjunctive points to an original I.-E. stem *bherā-* for this mood. If so, φεράμεν, φερᾶτε have passed to φέρωμεν, φέρητε on the analogy of the quality of the vowel of the indicative φέρ-ο-μεν, φέρ-ε-τε.

The long vowel has become in Attic Greek the characteristic of the conjunctive alike in thematic and non-thematic tenses. Traces of the old conjunctive with a short vowel remain in the so-called futures ἔδ-ο-μαι, πί-ο-μαι, which are really conjunctives. Even in Homer some non-thematic tenses have a long vowel in the conjunctive, e. g. ἄλ-η-ται (indic. ἆλ-το) and πέμψ-ω-μεν (indic. ἐ-πέμψα-μεν).

A full degree of the root seems to have been proper to the conjunctive, e. g. from √*es* we have ἔω, Att. ὦ, Sk. *ásā-ni*, Lat. *ero*. The Homeric conj. εἴδ-ο-μεν, beside the indic. οἶδ-α, seems to point to the middle degree with ε as the proper degree of root for the conjunctive.

Optative.

Optative Mood.

(1) Where the tense is non-thematic in the indicative, the optative suffix is -ιη- in the sing. of the active, and -ῑ- in the dual and plural active and all numbers of the middle.

Sing. ἐ(σ)-ιη-ν, ἐ-ίη-ν	Lat. *s-ie-m*, p. 160.
Plur. ἐ(σ)-ι-μεν, ε-ῖ-μεν	*s-ī-mus.*

The Latin as well as the Sanskrit *syām, syāma,* have the weak √*s* throughout.

With weak root we have the optatives βα-ίη-ν, θε-ίη, ἁλο-ίη-ν, ἀνα-δῦ-η (for -δυ-ιη), and in the plural φα-ῖ-μεν, θε-ῖ-μεν, δο-ῖ-μεν. The weak root should appear in the optative of τίθη-μι and δίδω-μι. Corresponding to Sk. *dadh-yā́m, dad-yā́m* we have τιθε-ίη-ν, διδο-ίη-ν, just as in the indicative τίθε-μεν, δίδο-μεν have taken the place of τιθ-μεν, διδ-μεν (p. 130).

(2) Where the indicative has the thematic vowel, the optative suffix is -ι̯-, e.g. φέρο-ι-ς, Sk. *bhárēs.* In the 1st sing. we have the primary ending -μι, e.g. φέροι-μι. In Sanskrit the ending is *-am* (-*m̥*), answering to which we should expect φερο-ι̯-α (-*m̥*) in Greek, which however would become φέρω, and so be identical with the indicative and conjunctive. In the 3rd pl. the ending is -εν, e.g. φέρο-ι-εν, as in the non-thematic ε-ῖ-εν. We should expect the ending to be -αν for original -*n̥t* which we find in the Elean συν-έαν=συν-εσ-ι̯-αν(τ), I.-E. *s-i̯-n̥t.* Εἶεν stands apparently for εἰηντ, with the suffix of the singular and η shortened by rule before the semivowel followed by a consonant (p. 66).

The aorist optatives in -αιμι, e.g. δείξαιμι, δείξαις, are new formations upon the analogy of the thematic -οιμι, -οις. The more regular Attic 2nd and 3rd pers. are -ειας, -ειε(ν).

The true sigmatic aorist optative is seen in εἰδείην=εἰδεσ-ιη-ν, εἰδεῖμεν=εἰδεσ-ι-μεν. The so-called Aeolic optative in -σεια was probably extended from the ending of the 3rd pl. of the sigmatic aorist optative, e.g. δείξειαν (δεικ-σειαν).

The contracted verbs in Attic have the suffixes -ιη- and -ι- with the thematic vowel, e.g. τιμῴην (= τιμα-ο-ιη-ν), τιμῷμεν (=τιμα-ο-ι-μεν). The Attic φιλοίην (=φιλε-ο-ιη-ν) differs from the Aeolic φιλείην, where there is no thematic vowel. These optatives have followed the analogy of verbs in -μι. The plural φιλοῖμεν resembled the plurals διδοῖμεν, δοῖμεν, and so the singular φιλοίην was made to resemble δοίην, διδοίην.

Imperative.

The Imperative. The Imperative has neither in Greek nor Sanskrit any peculiar mood sign. It is formed by adding the proper person-endings to the tense stem. Moreover, the imperative has few peculiar person endings. The only exclusively imperative forms are:

(1) The pure verb stem used for 2nd sing. in thematic verbs, e.g. *φέρε*, *rege.*

(2) The form in *-θι*, I.-E. *-dhi*, e.g. Sk. *ihi*, *ἴσ-θι*, in non-thematic verbs.

(3) The form in *-τω*, Lat. *-tō*, Sk. *-tāt*, e.g. *φερέ-τω*, Lat. *regi-tō(d)*, Sk. *bhara-tāt*, I.-E. *-tōd*, *bhere-tōd.*

A Greek form *ἐλθετῶς*, 2nd sing., is quoted. In origin the ending may be explained as the ablative of the pronominal stem *to* added as a suffix to the verb-stem (p. 160).

Not only are the peculiar forms few, but persons and number are not always distinguished, e.g. the old Sanskrit ending in *-tāt* usually used as a 2nd pers. sing. is also used as 1st and 3rd sing. and as 2nd plur. Hence it has been supposed that the Imperative originally (like the Infinitive) had one formation used for different persons and numbers.

The Pseudo-Conjunctive. Of the forms of the Imperative as we find it in Greek and Sanskrit, the 2nd and 3rd dual and 2nd plural are indistinguishable from the corresponding unaugmented forms of the preterite indicative. Thus in Homer we have unaugmented imperfects, e.g. *φέρετε*, etc., and also corresponding imperatives, e.g. *φέρε-τε*, *φέρε-τον*, *ἔσ-τε*, *ἴ-τε*, *δείξα-τε*, *κεκράγε-τε*, Lat. *vehi-te*, *mone-te*, *es-te*, *dă-te*, etc., Sk. *bhára-ta*, etc. In the singular we have *σχέ-ς*, *ἐνίσπε-ς*, and the middle forms *ἵστασο*, *τίθεσο*, *θοῦ* (answering to unaugmented forms of *ἐ-τίθεσο*, *ἔ-θου*): in Latin *ēs* (*ed-s*), *ēs-te* (*ed-te*), *ĕs* (*es-s*), *ĕs-te*, *fer* (*fer-s*), *vel* (*vel-s*). The forms *δό-ς*, *ἕ-ς*, *θέ-ς* (with short vowel, however) answer to unaugmented *δως*, *ἧς*, *θης*, while the augmented forms *ἔδως*, *ἔθης* have been replaced by *ἔδωκας*, *ἧκας*, *ἔθηκας.*

These imperative forms, though identical in form with the unaugmented indicative preterite forms, must be considered apart. Their meaning is conjunctive, and in the oldest Sanskrit they are used with *mā́* (μή) to express prohibition. They have been called *Pseudo-Conjunctive* or *Injunctive.*

We thus see then that the Imperative as a mood has been put together out of odds and ends. It boasts two endings of its own, *-dhi* and *-tōd,* and uses the verb-stem for another. For its other needs it has annexed certain conjunctive forms which are phonetically identical with unaugmented preterite forms of the indicative.

As to tenses, Greek has added the imperative endings to the aorist and perfect stems as well as the present. In Sanskrit rarely any but the present stem is used; in Latin never except in *memen-to.*

In Greek we say μὴ κλέπτε, but μὴ κλέψῃς. In old Sanskrit *mā́* was used with pseudo-conjunctive, not imperative forms. In Greek μὴ κλέπτε was admitted when the imperative had become a mood, but the sigmatic aorist imperat. act. and middle was a later formation, and μή continued to be used only with the aorist conjunctive, not with the new κλέψον and κλέψαι.

Infinitive.

The forms of the Infinitive are in their origin substantival. The Infinitive Mood. In Sanskrit the so-called Infinitive ends in *-tum* or *-itum,* e.g. from √*i* (to go), infin. *étum.* In the older language a number of verbal nouns in various cases are used in constructions which make them resemble the infinitive of other languages. Thus from the stem *vidmán* there is the dat. *vidmáne,* which answers to the Greek infinitive ϝίδμεναι. The dative *dāváne* answers to δοῦναι (Cyprian δοϝεναι), and from the stem *dāván-* there is no other case. As far as Sanskrit is concerned we may cancel the name of infinitive altogether and speak instead of datives and other cases of verbal nouns. These datives can, like other Sanskrit verbal nouns, govern the same

case as the verb, and in them is to be found the origin of the infinitive.

In Sanskrit these case-forms expressed purpose and consequence. In Latin this use of the dative case was common. In Greek the dative was not so employed. Conversely while in Greek we have the infinitive continually used to express purpose and consequence, in Latin this use of the infinitive is almost confined to poetry.

The nominal origin of the forms of the Infinitive was forgotten and they were no longer regarded as case forms. For instance, as the ending *-αι* was not preserved for the dative of nouns, the origin of *δόμεν-αι* was lost sight of, and it was brought into close connexion with the different stems of the verb. As beside *ἔδοσαν* there stood *δώσουσι*, so beside *δόμεναι* rose *δωσέμεναι*, and other infinitives for the different tenses, with constructions similar to those of the Finite Verb.

Terminations of the infinitive.

The ending *-θαι* appears in *ἧσ-θαι, πεφάν-θαι, ἐστάλ-θαι, τετύχ-θαι* of the perfect. With this ending we can compare Sanskrit *-dhyāi.*

The ending *-σθαι* stands related to *-θαι* as *-σθε* to *-θε* in the second person plural indicative (p. 126). This ending appears in different tenses, viz. *τίθε-σθαι, ἰδέ-σθαι, λελύ-σθαι, λύσα-σθαι, λύσε-σθαι,* and has become the common Greek form for the middle.

The suffix *-μεναι*, Sk. *-mâne*, which is Epic and Lesbian, appears in *Ϝίδ-μεναι, θέ-μεναι, γνώ-μεναι, μιγή-μεναι* of non-thematic tense-stems; in *εἰπ-έ-μεναι*, etc. of thematic.

The suffix *-μεν*, which may be locative, appears in *ἴ-μεν, δό-μεν, τεθνά-μεν* after a short vowel; and in the thematic *εἰπ-έ-μεν.*

The suffix *-εναι* (= *-Ϝεναι*, Sk. *-vâne*) appears in the Cyprian *δοϜεναι*, Sk. *dā-vâne*, and in *ἰ-έναι, δεδι-έναι, εἰδ-έναι*, and many instances where a long vowel points to the absorption of *ε*, as in *δοῦναι, θεῖναι, στῆναι, βῆναι, ἁλῶναι, ἀῆναι*, etc. Later, *-ναι*

alone was regarded as the suffix, and appears in the present and perfect in *διδό-ναι*, *τιθέ-ναι*, *τεθνά-ναι*, etc., of which there is no trace in Homer. There is also no instance in Homer, nor in Aeolic or Doric, of *-εναι* as an ending of the perfect infin. active.

-ειν is the normal ending of the thematic conjugation, e.g. *ἔχειν*, but in Lesbian *ἔχην*, in Cretan *φέρε-ν*. Attic *-ειν* before 404 B.C. was written *-εν*. There is no certain explanation of this ending. It may stand for *-ϝεν*, Sanskrit *-van*, e.g. *φερε-ϝεν*, *φερε-εν*, *φέρειν*. The *-ε-ειν* of Homer is an anomalous ending which may in most cases be written *-ε-εν*, e.g. St. *βαλε*, Inf. *βαλέ-εν*, *βαλεῖν*.

The ending *-σαι* of the sigmatic aorist may be compared with Sanskrit *-se* in *ji-ṣé*, *for conquering*.

As the Infinitive is an abstract noun, the Participle ranks as a Verbal Adjective, verbal in that it implies a predication and goes with the same cases as the finite verb, but nominal in that it cannot by itself form a predication. The Participle.

There are many different participial suffixes, with some of which we have already dealt in treating of nominal declension. Participial terminations.

1. *-nt-*, *-ṇt-*; p. 98. 2. *-ϝώς*, *-υῖα* (or *-ϝεῖα*), *-ϝός*; p. 100. 3. *-μενο-*, middle suffix of all tenses. It is identical with the reduced *-μνο-* of *βέλε-μνον*, Latin *-mino-*, *-mno-*, Sanskrit *-māna-*. 4. *-το-*, e.g. *κλυ-τό-ς*, Sanskrit *çru-tá-s*, which is mainly adjectival. 5. *-τεο-*, e.g. *δο-τέο-ς*. 6. *-νο-*, with the same meaning as *-το-*, was once a participial suffix, but in Greek is purely adjectival, e.g. *στυγ-νό-ς*, *σεμ-νό-ς* (*σεβ-νο-ς*), *στεγ-νό-ς*, *ἁγνό-ς*, Sanskrit *bhug-ná-s*, Latin *ple-nu-s*, etc. 7. *-ιο-*, in the adjectives *ἅγ-ιο-ς*, *στύγ-ιο-ς*, Sanskrit *-īya-*, Latin *exim-iu-s*.

THE LATIN VERB-SYSTEM.

The Latin system of verb-inflexion presents a far greater deviation from that of the original language than is presented by the corresponding system in Greek. The Primary endings

-mi, *-si*, *-ti* have everywhere disappeared, and their place has been taken by the Secondary endings *-m*, *-s*, *-t*. Of the augment there are few traces left. The middle endings as such have vanished, and in their place we find a medio-passive inflexion formed by adding *-r* to the 'secondary' middle endings (*-luitur* = *-lueto-r*, cf. λύετο). The system of the sigmatic aorist has been confounded with that of the perfect, and the resulting inflexion, while it combines the perfect and aoristic meanings, often shews also a combination of perfect and aoristic forms.

The person-endings are as follows:—

Person endings. 1st sing. in non-thematic verbs *-m*, in thematic verbs *-ō*. The single instance of *-m* in a primary tense of the indicative is the form *sum*, but as this form is perhaps better explained by being compared with Gk. ἔον (= ἐσ-ον), and would seem therefore to be properly a secondary tense, it would perhaps be better to refuse to recognise the existence of *-m* as a primary ending in Latin except in the subjunctive and in some future indicatives which are subjunctive in origin. *Inquam* is better taken to be an imperfect and therefore secondary. All other non-thematic verbs have, at any rate in this person, become thematic in Latin.

The termination *-o* is as yet unexplained; but if the explanation of the Greek 1st person in -ω suggested p. 122 is correct, the Latin ending must have a distinct origin. *-oi̯m̥* in Latin could only become *-oi̯em*, and eventually perhaps *-um*. The Sk. *bhárāmi* with long *ā* points to an original form *bherōmi*, of which the corresponding secondary form would be *bherōm* = Lat. *ferō*, though the loss of *m* is hard to account for.

2nd sing. *-s* (*fer-s*, *ama-s*). 3rd sing. *-t* (*fer-t*, *ama-t*).

1st plur. *-mus*, differing from Greek -μεν, but in its consonants corresponding to the Doric -μες and perhaps in every respect to Sk. *-mas*.

2nd plur. *-tis*, which perhaps corresponds to the Sk. dual ending *-thas*, with the hard aspirate becoming a tenuis after an unaccented syllable. The earlier plural ending *-te*, Gk. -τε, Sk. *-tha*, appears in the imperative (*es-te*, *fer-te*).

3rd plur. *-nt* (*ama-nt*, *doce-nt*, *reg-o-nt*).

Passive person-endings.

The passive terminations are obscure, but this much is certain, that they are formed in most cases by the addition of a suffix *-r* to unaugmented forms of the tenses with the secondary middle suffix. *Legitur*, *leguntur* cannot be separated from λέγετο, λέγοντο. *Legeris* seems to correspond to *λεγεσο (λέγου), standing for *legeso-r*, though the final *-is* may be due rather to an assimilation to the ending of the corresponding person of the active. But *legere* looks like the same form without the *-r*; at least we cannot separate the 'injunctive' (imperative) ἕπου (ἑπεσο) from *sequere*. *Legimur* may conceivably stand for *legimus-r*, which would become *legimurr*, *legimur*, but this cannot be considered as satisfactory. *Legimini* is universally explained as participial (cf. λεγόμενοι), but the corresponding form of the imperative is perhaps to be compared with the Greek infinitive λεγέμεναι, which is used in Homer, under certain limitations, as an imperative.

Thematic and non-thematic verbs.

Non-thematic verbs only survive in Latin in isolated forms, *fer-s*, *fer-t*, *ĕs-s* (*ĕs*), *ĕd-s* (*ēs*), *ĕs-t*, *ĕd-t* (*ēst*), *vol-t*, *i-s*, *i-t*, etc. *fŏ-re* (√*bhŭ-*), *nā-re*, *stā-re*, and perhaps *amant*, *monent*, etc.

Thematic verbs may be classified as follows:—

(i) The thematic vowel is added to the strong or weak root, e. g. *dūc-o* (old Lat. *douc-o*), *ăg-o*.

(ii) The thematic vowel is added to the reduplicated root, e. g. *si-st-o*.

(iii) The *T*-class, e. g. *flec-t-o*.

(iv) The Nasal class (*a*) *cer-n-o*, (*b*) *tu-n-do*.

(v) The Inceptives, e. g. *po-sc-o*.

(vi) The *Yod*-class (*a*) radical *fug-i-o*, (*b*) denominative *statu-i̯o*, (*c*) causative *mone-i̯o*.

To this class belong all verbs of the 4th conjugation and those of the third whose 1st sing. ends in *-io* or *-uo*. It is also usual to compare *amo*, *moneo* with the Greek τιμάἰω, φιλέἰω, in which case all verbs of the 1st and 2nd conjugations would also be *Yod*-verbs; but as *ama-nt*, *mone-nt*, and other forms can hardly be for *amai̯-ont*, *monei̯-ont*, it is perhaps better to consider these conjugations as at least partially non-thematic.

Non-thematic verbs becoming thematic. We have already remarked that the bulk of non-thematic verbs become thematic in Latin. Thus *-ple-o* corresponds to πίμ-πλη-μι, *se-r-o* (for *si-s-o*) to (σ)ί-(σ)η-μι, *ster-nu-o* to πτάρ-νυ-μαι, *ster-n-o* to στόρ-νυ-μι. Even when isolated non-thematic forms survive, other forms have been assimilated to the thematic type; *fer-s*, *fer-t*, *fer-tis*, *fer-re* are non-thematic, but *fer-i-mus*, *fer-u-nt* have the thematic vowel.

The transition seems to have begun with the plurals. Thus, for example, corresponding to the Greek (σ)ί-στᾱ-μι, (σ)ί-στᾱ-ς, (σ)ί-στᾱ-σι, plur. (σ)ί-στᾰ-μεν, (σ)ί-στᾰ-τε, we should get in Latin *si-stā-m*, *si-stā-s*, *si-stāt*, plur. *si-stă-mus*, *si-stă-tis*. But *sístămus*, *sístătis* must become *sistimus*, *sistitis*, as *cón-căpit* becomes *concipit*, with *ĭ* for original *ă* in an unaccented syllable. This short *ĭ* is not distinguishable from the *ĭ* representing the thematic vowel (in e. g. *reg-ĭ-mus*), and so by analogy we have *sisto*, *sistis*, for *sistām*, *sistās*. The same would be true of the type *sero* (for *si-s-o*), plural *si-sĕ-mus*, *si-sĕ-tis*—Greek (σ)ί-(σ)ε-μεν, (σ)ί-(σ)ε-τε—becoming *serimus*, *seritis*. Compare also the compounds of *do*, in which *ád-dă-mus*, *ád-dă-tis* have become regularly *addimus*, *additis*, and the singular has conformed to this analogy.

The Non-thematic Conjugation. We may now take what remains of the non-thematic conjugation in detail.

1. Root *ei̯-*, *i-* in *e(i̯)o*, Gk. εἶ-μι, Sk. *é-mi*. The strong root is extended everywhere in Latin, except in the perf. part. *-ĭ-tus*, and the nom. sing. of the pres. part. *red-i̯i-ens*. Thus *ī-mus*

(for *ei-mus*) contrasts with the Gk. ἴ-μεν, and Sk. *i-más*. Like *eo* are *queo*, *nequeo*, which do not appear in Greek.

2. Root *dā-*, *dă-*, where the weak root has been generalised (*dă-re*, *dărem*, etc.), except in *dā-s* and originally *dā-t*. For *da-tus* as compared with Gk. δο-τός, Sk. *di-tás*, see p. 80. *Do* by the side of δίδωμι seems to have lost the reduplication, unless we are to take it to be an 'aorist-present' parallel to the Greek *(ἔ)δων, plur. -έδομεν. The old pres. subj. *duim* seems similarly to correspond to the Greek aorist δο-ίη-ν.

3. Root *es*, *s*.

The original inflexion of the present would have been

	és-m̥i	*és-s*	*és-t*	*s-mós*	*s-té*	*s-n̥t.*
Sk.	*ás-mi*	*ási*	*ásti*	*smás*	*sthá*	*sánti.*

es-s became *ēs*, the quantity it still bears in Plautus, though it was subsequently shortened as an enclitic. *sum*, as we have seen, perhaps corresponds to the Ionic imperf. ἔον (ἔσον), and the loss of the *e* is due to its use as an enclitic—compare the corresponding loss in the enclitic 3rd person (*durumst*, etc.). From *sum* were then formed *sumus* and *sunt*. The strong form of the root is extended to the 2nd plur. on the analogy of the singular.

ero is either a subjunctive form, corresponding to the Greek ὦ, ἔω (ἔσω), or else represents the non-enclitic form *esōm*, of which the enclitic is *sum*. The original long vowel of the 1st person of the thematic system seems supported by the long vowel of Sk. *bhárāmi* (*bherōmi*). *Erām* has not yet been satisfactorily explained.

The pres. subj. is really optative in origin, and takes therefore the suffix *-iē-* in the singular, *-ī-* in the plural.

	s-iē-m,	*s-iē-s,*	*s-iē-t,*	*s-ī-mus,*	*s-ī-tis,*	*s-i-nt.*
Gk.	ἐ(σ)-ιη-ν,	ἐ(σ)-ιη-ς,	ἐ(σ)-ιη,	ἐ(σ)-ι-μεν,	ἐ(σ)-ι-τε.	
Sk.	*s-yā́-m,*	*s-yā́-s,*	*s-yā́-t,*	*s-yā́-ma,*	*s-yā́-ta.*	

The original form of the singular is common in Plautus, but in later Latin the analogy of the plural has prevailed.

The present participle ought to present the stems *sont-*, *sent-*, *snt-*, the two last being identical in Latin. But in practice the weaker stem has prevailed, though the strong is perhaps preserved in the adjective *sons*.

Possum stands for *pot(i)-sum*, but the forms *potin* (for *potis-ne*), *potui*, etc., go back to a verb **potĕre* (cf. *potens*), of which the middle is *potior*, *potĭtur*.

4. Root *ĕd*, which remains non-thematic in *ēs* (*ĕd-s*), *ēst* (*ĕd-t*), *ēsse* (*ĕd-se*), *ĕd-im*, etc.

5. Root *fer*, non-thematic in *fer-s*, *fer-t*, *fer-tis*, *fer-te*, *fer-re*, etc.

6. Root *vel*, *vol*, non-thematic in *vol-t*, *vol-tis*, *vel-le*, *vel-im*. The imperative *vel* has come to be used as a conjunction. *ol* and *el* interchange in accordance with the law by which *el* becomes *ol* in Latin, except before *l* and *e* (*i*), p. 69. *vis* is from a distinct root, which appears in the Greek *ϝῑ-εμαι*, Sk. *véṣi* (√*vī* to enjoy), *nōlo* is for *ne-u̯olo*, *mālo* for *māh-u̯olo* (cf. *mājor* = *māhi̯or*).

Other isolated thematic forms have been mentioned, p. 149.

The Thematic Conjugation.

(1) Verbs forming the present stem by the simple addition of the thematic vowel *o* or *e* (*i*).

(*a*) Imperfect presents, formed from the strong root, and corresponding to Sanskrit verbs like *bháva-* from √*bhū*.

Stems containing *e*:—*lego*, *rego*, *peto*, *veho*, *pendo*, etc.

Stems containing long vowels:—*rādo*, *vādo*, *rēpo*, *cēdo*, *rōdo*.

Stems containing diphthongs:—*dūco* (older *douco*), *claudo*, *laedo*, *lūdo* (for *loido*), *fīdo* (older *feido*, cf. *πείθω*).

Stems containing *ī* or *ū* which cannot be proved to have corresponding diphthongal forms:—*fīgo*, *flīgo*, *glūbo*.

Stems that have passed wholly or in part to the derived (1st or 2nd) conjugations:—*crepo*, *veto*, *seco*, *strido* (also *strideo*), *fervĕre* (also *fervēre*), *fulgĕre* (also *fulgēre*).

(*b*) Aorist presents formed with the weak root:—*ăgo*, *ălo*, *căno*, *cădo*, *lŏquor*, *nĭvit*, *fŭrere*, *divĭdo*, etc.

(2) Verbs forming the present stem with the reduced root reduplicated. Latin makes no distinction between the thematic and non-thematic verbs. *gi-gn-o* (Old Lat. *geno*, cf. *genitus*), *sīdo* (*si-sd-o*), *disco* (*di-dc-sco*), *si-st-o*, *bi-b-o*, *sero* (*si-s-o*).

(3) *T*-class, formed by adding *t* before the thematic vowel.

Imperfect Presents:—*flec-to*, *pec-to*, *vī-so* (*veid-to*), etc.

Aorist Presents:—*fă-teor* (*fā-ri*), *făt-iscor* (cf. χά-σκω).

Here we must put *baetere*, which the compounds *re-bītere*, etc., shew to be originally diphthongal.

(4) Nasal Class.

(*a*) Those in which the suffix *no*, *ne* is added to the root, originally in its reduced form. These were originally non-thematic, and correspond to the 5th or 9th Sanskrit class, which are formed by adding *-no-* or *-nā-* (plur. *nu*, *nī*, I.-E. *-nə-*) to the weak root. They would have passed into the thematic system in the way indicated above (p. 150). Both *sper-nă-mus* and *sper-nŭ-mus* would produce *spernimus*, and this *spernis*, *spernit*.

Cer-no (κρί-νω, cf. p. 135), *ster-no*, *sper-no*, *tem-no*, *in-cli-no*, *co-nor*, *de-sti-no*, *li-no*, *si-no*. Disguised by assimilation, *-tollo* (*tl̥-no*), *pello*, *vello*, *fallo*.

(*b*) The nasal is 'infixed,' appearing in the body of the root which is reduced. These verbs correspond to the Sk. 7th class of the type *rundh* from the √*rudh*. In Greek this type only appears with a second suffixed nasal (λα-μ-β-άν-ω √λαβ, p. 135).

fi-n-do, *sci-n-do*, *pun-go*, *ru-m-po*, *in-cu-m-bo*, *ni-n-guit*, etc. In some verbs (*iu-n-go*, *fu-n-gor*) the nasal appears in all forms, but in the majority of cases is confined to the present system.

(5) Inceptive class.

The suffix *-sco, -sce* is added in these verbs generally to the reduced root.

(*a*) Immediately to the simple root—*pa-sco, cre-sco, hi-sco, mi-sceo* (*mig-sceo*), *posco* (for *porc-sco, pr̥c-sco*, cf. *procus, precor*). Add *gno-sco, gna-scor*, which however present great difficulties in their cognate forms. Probably there was a primitive confusion of the two stems. *Ignārus* must come from *gnosco* but owes its *ā* to *gnascor*, while the Homeric γνωτός, 'a blood relation,' must come from the same root as *gnascor*, but owes its ω to γιγνώσκω. The relation of *gnascor* to *gigno*, γίγνομαι, and of the Greek κασί-γνητος, γνήσιος, where the η, being found even in Doric, must be primitive, to *gnātus* is very obscure.

(*b*) To derived stems of various kinds—*gemi-sco, treme-sco, sci-sco, arde-sco, laba-sco, dite-sco, quie-sco, puera-sco*.

(6) The *Yod*-class form the present stem by adding *-io-*, *-ie-* to the root, which is generally reduced. Thus—

Farc-io (cf. φράσσω for φρακ-ɩ̯ω), *salio* (ἅλλομαι for σαλɩ̯ομαι), *iacio* (ἰάπ-τειν √*i̯aq*), *venio* (*g̑m̥-i̯o*), etc.

But the forms *advenat*, etc., in Plautus are not contractions from *adveniat*, but are aorists-presents formed without a *Yod* suffix.

In the inflexion of verbs of this class we find a confusion between tenses formed from the pure stem and those formed from the stem increased by *-io-*, *-ie-*. The stem *cap-*, e.g. appears in *cap-tus, cap-ere, cap-it*, but *capi-o* is a *Yod*-form. In *pŏtior* some forms come from the aorist stem *pŏt-* (*pŏt-ĭ-tur*), others from a stem *pŏtī-* (*potī-ri, potī-tus*), and similarly the stem *pĕt-* in *pĕto* stands side by side with the stem *petī-* in *petīvi*. So also we find a combination of different stems in the conjugation of *morior, orior, cupio, fodio*, etc.

To the *Yod*-class also belong all verbs of the 4th conjugation, and those of the third of the type *statuo* (for *statū-io*).

The 4th conjugation properly consists of verbs whose stem ends in *ī* (cf *audīs-* for *audī-i̯s*, the stem being seen in *audītus*, Old Latin *audī-bam*, *audī-bo*, and the Greek verbs of the type μηνίω). But many verbs formed from noun-stems with no trace of *ī* have nevertheless gone over to this system, e.g. *saevio* (*saevus*), *punio* (cf. *poena*), *custodio* (cf. *custos*). Possibly also all verbs of the 1st and 2nd conjugation may be considered as *Yod*-verbs, *amo*, *moneo* standing for *amā-i̯o*, *monē-i̯o* as τιμάω, φιλέω for τιμαι̯ω, φιλει̯ω. But as it seems impossible to get *amant*, *monent* from *amāi̯ont*, *monēi̯ont*, it is perhaps better to consider these conjugations as to some extent at any rate non-thematic. But even in these cases we find a variation of conjugation—*violāre* standing beside *violens*, *lavāre* beside *lavĕre* (Gk. λοϝέω shews yet another form), *calāre* beside *kalendae*, etc.

The characteristic of the perfect is the reduplication, formed by the first letter of the stem followed by *e* (whereas the reduplicating vowel of the present is *i*, *si-st-o*, (σ)ί-στα-μι). Further, as we saw in the case of Greek, the singular of the active originally shewed the vowel *ŏ* in the case of those verbs whose present stem contained *ĕ*, and *ō* in those whose present stem contained *ē* (πέποιθα √πειθ-, ἔρρωγα √ϝρηγ-), while the plural shewed the reduced root (Hom. ἐπέπιθμεν). The Perfect.

Reduplication is however comparatively rare in Latin, though it still survives in the case of some twenty-five verbs (*didici*, *cecini*, *cucurri*, etc.). The *ĕ*-vowel has generally been kept in the reduplication, but is assimilated to a following *ŏ* or *ŭ* (*momordi*, *cucurri*), and to a following *ĭ* in the case of *didici* (where the change may be due to an assimilation to the present *disco* for *di-dc-sco*) and also in *sti-ti* (*sisto*) and *bibi*. Of the *ŏ*-gradation there are one or two possible relics. *mŏmordi*, *spŏpondi* were in Old Latin *memordi*, *spepondi*, pointing to presents **merdo* (cf. σμερδ-νός), **spendo* Reduplicated Perfects.

(cf. σπένδω), to which *mordeo, spondeo* are related as φορέω to φέρω.

There are some traces of the reduced root appearing in the Latin perfect. It has however in every case been extended throughout the tense, and is no longer confined to the plural—*ste-t-i* (for *ste-st-i*), *sti-ti* (for *sti-st-i*), *de-d-i.*

In other cases the shortening of the root vowel seems due merely to the fact that in the 1st and 3rd sing., and indeed originally in all persons, the accent fell upon the reduplication. (*pé-pig-i* √*pag-* in *pac-tus*).

Perfects with long vowel.

In perfects of another type we find the characteristic to be an unreduplicated stem with a long *ē* corresponding to a present stem with a short vowel (*fēci, jēci, sēdi,* etc.). Of this form various explanations have been given. It may perhaps be possible that *sēdi* is for *se-sd-i,* and is therefore really reduplicated, but to explain *fēci* as standing for *fe-fc-i* seems phonetically impossible.

It is therefore better to suppose that we have here a totally different method of forming the perfect. οἶδα, Sk. *véda,* Lat. *vidi* are universally regarded as primitive forms, and no one would explain them as containing a reduplication. The same may be said of *jeci* if it corresponds to the Greek ἧκα, which though an aorist in meaning is obviously a perfect in form. ἧκα will then stand for ϳηκα, and must be separated from ἵημι, if we put this form with Lat. *sero* for *siso* (σι-ση-μι). In these two cases we have instances of a primitive perfect with a long vowel standing by the side of a present with a short vowel; and this is the type that, though rare in other languages, appears commonly in Latin: cf. *scăbo scābi, fŏdio fōdi, vĕnio vēni, sĕdeo sēdi, vinco vīci, fŭgio fūgi, frango frēgi,* etc.

In the case of four verbs with stems beginning with a vowel we have relics of the augment substituted as in Greek for the reduplication, *ēgi, ēdi, ēmi, -ēpi* (in *co-ēpit* Lucr. 4. 619)

standing, by a primitive contraction, for *ĕ-ăgi, ĕ-ĕdi*, etc. In these cases, therefore, the long vowel of the perfect admits of ready explanation, and it is possible that these four verbs, together with *vĭdeo vīdi, jăcio jēci* and one or two similar perfects, formed the type on which the others were subsequently modelled. At any rate the wide extension of this form of the perfect in Latin, as compared with other languages, can hardly be original, and as the vowel change has not yet been explained by phonetic law, we are obliged to have recourse to analogy.

So far we have dealt with perfects, of which the 1st sing. is formed by adding *-ī* to the simple stem, whether reduplicated or with a long vowel. But these constitute a minority of the existing forms, the bulk of which are produced by the addition not of a simple *ī*, but of *ī* preceded by (i) *s* or (ii) *v* or *u*.

1. Perfects in *-sī*. Perfect in *-si.*

Amid much obscurity one thing is certain, that the *s* was originally no part of the perfect system. It has nothing to answer to it in the perfect forms either of Greek or Sanskrit.

It can however have been introduced only from one source, the system of the sigmatic aorist. As in dealing with present stems we saw that some were formed from present stems proper, some from the stems of strong aorists, though the distinction of meaning which presumably once existed between the two types (*lego* = I am choosing, but *ago* = I do) eventually disappeared, so in a somewhat similar way the sigmatic aorist and the perfect inflexions coalesced in one form, which combined the meaning of both tenses.

videro is usually thought to be a sigmatic aorist subjunctive, corresponding to the Greek *ϝειδέ(σ)ω*, Sk. **vediṣā-(ṇi)*. In a non-thematic tense we expect a short connecting vowel, and this we find in *videris, viderit, viderĭmus*, Sk. *védiṣas*,

védiṣat. *viderim* similarly corresponds to the Greek optative *ϝειδε(σ)ίην*, and ought to keep a long *ī* throughout, but as a matter of fact confusion with the future perfect is very common.

Beyond this it is not for the present safe to go. None of the current theories as to the relation between the two systems of inflexion, and as to the origin of the perfect terminations in Latin are satisfactory, and it is probably better at present to confess our ignorance than to catalogue a series of makeshift explanations.

Perfect in *-vi*.

2. The Perfect in *-vi* is peculiar to Latin, and possibly a new formation after the confusion of perfect and aorist forms and meanings in the type in *-si* had made a pure perfect form desirable. In Sanskrit, roots ending in *-ā* (I.-E. *ā*, *ē*, *ō*) form the 1st and 3rd sing. of the perfect in *-āu* (√*dā*, perf. *dadāú*). To this Latin has added the *-ī* which, whatever its origin, is the appropriate ending of the 1st sing. of the perfect, and we get *pa-vi*, *no-vi*, *le-vi*, *se-vi*, etc. In the case of roots ending in *-i* (e.g. *ii*) even in classical times the form without the *v* is more correct. On the other hand *fuvit* is older than *fuit*. In a certain number of words the *v* is radical (*fov-i*, *mov-i*, *lav-i*, *cav-i*, *juv-i*), and these would have helped the extension of the type by analogy.

The perfect in *-ui* is plainly inseparable from that in *-vi*, but is not yet fully explained. If, however, *-vi* came to be taken as a perfect ending, then a stem *gene-* as seen in *γενε-τή*, *gene-trix*, *geni-tus*, might form a perfect *gene-vi* which would become *genovi* and *genui* (cf. *denovo*=*denuo*, Gk. *νέϝος*). From a few verbs of this type the ending *-ui* might be extended to such cases as *monui*, *serui*, *aperui*, *praecinui*, etc.; and the extension would be helped by the analogy of those perfects where the *u* was radical (*rui*, *pluit*, *nuit*), those verbs formed with the suffix *-nu* (*ster-nu-i*) and the denominatives of the type *metu-i*.

Future and Imperfect with *b*.

The future in *-bo* and the imperfect in *-bam* perhaps await a complete explanation. The traditional theory that the terminations represent respectively I.-E. *bhu̯o* (Gk. φύω) and *bhu̯am* (cf. ἐ-φύην) is hardly satisfactory, as the disappearance of the *u̯* is hard to account for, and the meaning that would naturally result by attaching such a verb form to a second verbal stem is hardly satisfactory. But that the forms are compounds seems certain, and the first element is plainly infinitive in character and answers to the first element in compounds like *cale-facio, are-facio* (the first element of which Lucretius uses as a separate word, '*facit are*').

Of the Latin terminations *-bo*, *-bam*, the following explanation has been suggested. The Greek βαίνω is I.-E. *g̑m̥i̯ó*, Lat. *venio*, Engl. *come*. This supposes a root *g̑m̥*. But βέ-βᾰ-κα, ἔ-βᾱ-ν and βάκτρον by the side of *baculum*, which cannot be a borrowed word, seem to necessitate a root √*ba*, which may also appear in the English *path*, A.-S. *pæ̆th*. The increase of a root by a guttural also appears in e.g. θή-κ-η (√*dhē*), *fă-c-io*. From the √*ba* might be formed a present *bō*, an unaugmented aorist *bām* (cf. *stō*, √*stā*, ἔστην), which were used as suffixes to form the future of the 1 and 2 conjugations, and the imperfect of all. In early Latin we also find forms like *leni-bo*, and the imperfect *leni-bam*, occasionally preserved in classical poetry, is more primitive than *leni-ē-bam*, where the long *ē* seems to have been introduced from the 2nd conjugation, which apparently is also responsible for the length of the vowel in *regēbam*. The meaning is precisely that which is required. A future corresponding to that in *-bo* also appears in Celtic; the imperfect in *-bam* is peculiar to Latin.

The Conjunctive.

The characteristic vowel of the thematic present subjunctive is apparently *ā*, and *ferat*, *ferāmus* are accordingly primitive. The type *videro* is a sigmatic aorist subjunctive, corresponding to the Greek εἰδέ(σ)ω.

amem perhaps stands for *ama-iē-m* and is an optative (p. 143), and the same explanation may possibly hold good for the future *regēs* (*reg-iē-s*), whence was formed the plural *regēmus*, etc. (for **reg-ī-mus*).

The optative suffixes—sing. *-iē-*, pl. *-ī-*—are seen in *sim*

(Old Lat. *siem*), *simus*, *velim*, *nolim*, *duim* (cf. δοῖμεν), etc. The forms in *-sim*, as *faxim*, etc. are optatives of a sigmatic aorist (cf. εἰδείην = εἰδεσιην, p. 143).

The Imperative.

The existing forms of the Imperative are as follows :

(1) The pure verb stem—*amā*, *rege*, *fer*.

(2) The suffix *-tō(d)*, explained as the ablative singular of the pronominal stem *to-* used as an enclitic addition to the verb form with the meaning *from that time onwards*, and therefore serving to distinguish the future imperative.

(3) The so-called pseudo-conjunctives with secondary endings—*regite*, *regunto*, *regere* (cf. ἕπου = ἕπεσο, Lat. *sequere*), and with the passive suffix *reguntor*.

(4) The participial or infinitive form, *legimini* corresponding either to the Greek λεγόμενοι or λεγέμεναι.

amatote is apparently formed from *amato* on the analogy of *amate* from *ama*.

Infinitive.

The termination of the infinitive active is plainly *-se*, which between vowels becomes *-re* (*es-se*, *ama-re*). There are some indications that the vowel was originally long, and the corresponding Greek type seems to be -σαι (κέλσαι), though it is not easy to see how a final diphthong could become *ē* in Latin. To this answers the Sanskrit dative of nouns in *-as* or *-s* used infinitively, e.g. *jīváse*, *jiṣé* from *jīvas*, *jis*. Latin apparently, as also sometimes Sanskrit, uses the locative rather than the dative infinitivally (cf. Greek δόμεν, a suffixless locative), and the suffix *-ĭ* becomes *-ĕ* just as *marĭ* becomes *marĕ*. *vivere* will therefore be a locative of a substantival stem *vivos*, *vives*, and formed like *jīváse* from *jīvas*. But it would seem that the termination must eventually have been taken to be *-se*, *-re* not *-e* alone, for it is not easy to suppose that *monēre*, *amare* originated in any other way than by attaching *-re* as a suffix to *mone-*, *ama-*. The double *ss* of the perfect infinitive still awaits explanation, though plainly

identical in origin with the similar forms of the pluperfect subjunctive.

The Latin *agi* cannot well be separated from the Sanskrit *áje*, a dative used infinitivally. *amari* on the other hand would not find its parallel in Sanskrit, which only uses the datives of root-nouns in this sense. It is just possible that *agi* stands for *agie* (as *fili* for *filie*), an instrumental or locative (*-ĭĭ* = *-ie*, cf. *abietis*) from an *I*-stem. *ie* would be kept when followed by the passive suffix *-r*, but without this suffix would pass to *-ī*. Hence *agi*, *agier*, whence by analogous formation *amari*, *amarier*.

In Sanskrit the most common type of infinitive is the accusative of substantives with the suffix *-tu* (*etum*, etc.). To this corresponds the Latin 'supine in *-um*' used as an infinitive after verbs of motion. It is to be noticed that in practice the vowel gradation of the supine is identical with that of the past participle, but originally the 'supine' was formed with a strong, the participle with a weak stem (supine *eí-tu-m*, part. *i-tú-m*). The two forms have reacted on one another.

The Participle.

1. Present Participle. The ending was originally *-ont-*, *-ent-*, *-n̥t-*, *-nt-* in the various cases, but Latin has preserved the 2nd or 3rd ablaut only (*reg-ent-es*, *ama-nt-es*), except in the case of *euntis* (*ei̯-ont-is*), *sons* (*s-ont-s*, a present participle of *sum*, cf. Greek ὤν), and one or two Old Latin words. But a trace of the O-degree is seen in *faciundus* (for *faci-ont-nos*) by the side of the later *faciendus*, which is formed by the addition of a second participial suffix *-nos* (Gk. ἀγ-νός, Lat. *ple-nus*) to the stem of the present participle.

2. The Future Participle in *-turus* is peculiar to Latin, and is clearly formed from the *nomina agentis* in *-tor* (*daturus*: *dator*) with an unexplained change of *ō* and *ū*, also seen in *fur*, Gk. φώρ, etc. (p. 36). The desideratives in *-urio*

cannot be formed directly from the future participle owing to the difference of the quantity of the *u*, and are more probably parallel formations straight from the *nomina agentis*.

3. The Present Participle Passive survives only in the form used for the 2nd plur. pass. (*legimini*, Greek λεγόμενοι), but traces of the same termination in various gradations are seen in nominal forms like *ali-monium*, *ali-mentum*, *alu-mnus*.

4. The Past Participle in *-tus*, which after dentals becomes *-sus*, is universal in Latin. For the alternation of *s* and *t*, cf. p. 73.

Various other terminations, which in Sanskrit are reckoned as participial, in Latin have become purely adjectival, e.g. *-ná* (*ple-nus*), *-tavya* (cf. *mortuus*), etc.

PART III.

SYNTAX.

CHAPTER X.

The Syntactical Systems of Greek and Latin.

Syntax and Inflexion.

Now that we have considered the sounds of which words are composed and the forms which they assume in declensions and conjugations, it remains to consider *Syntax*, or the combination of words in *Sentences*. In Inflexional languages like Greek and Latin the study of the forms of words must accompany the study of Syntax, for it is only as sentences, or parts of sentences, that words have a meaning. The form taken by a Greek or Latin word, e. g. *πόλει*, *saxi*, depends upon its function in the sentence in which it occurs, and its relation to other words. In comparing the syntactical systems of Greek and Latin and their relation to that of the original language, we shall still have to consider the forms of words, not etymologically, for the sake of finding out the elements of which they are composed, but syntactically, for the sake of learning the function they perform in the sentence.

The Simple Sentence.

The division of the sentence into *Subject* and *Predicate* dates from the beginnings of Logic. The logical proposition, *ἀποφαντικὸς λόγος*, the simple affirmative or negative statement, consists of the *Subject*—that of which something is affirmed or denied, the *Predicate*—that which is affirmed or denied of the subject, and the *Copula* which links the two

together. Thus in *Man is mortal* the term *man* is the subject, *is* the copula, and the term *mortal* the predicate. It is from the logical analysis of the sentence that grammarians obtained the terms Subject and Predicate. In Greek and Latin the copula and predicate are usually combined in a single word, e.g. *ὁ ἵππος τρέχει, the horse is running.* Consequently there is no need to distinguish the copula from the predicate, and the first analysis of the λόγος or proposition recognised merely the ὄνομα or subject, and the ῥῆμα or predicate. Now though it may be possible to analyse all sentences which express a complete meaning into these parts, it is evident that we employ in every-day speech sentences which do not conform to the pattern of a simple affirmation or negation. Besides the simple statement, we utter *Wishes*, *Prayers*, and *Questions*, all of which are expressed in sentences of different form, and none of which are recognised in Logic. Again, when we say *Fire! Really! Nonsense!* we convey a meaning perfectly clear to those who hear us, but not expressed in the form of the logical proposition. For the purposes of Logic such sentences must be expressed in logical form; for Logic, being concerned with language only as the instrument of thought, attempts to reduce the varieties of speech and thought to the fewest possible forms, and treats all sentences as enuntiatory; while Grammar, on the other hand, is concerned with the study of language and all its different forms of expression, as they are, for their own sake. If we study the grammar of a particular language, we seek to classify the idioms of that language in reference either to the whole of its history, or to its usages at a particular time. In the study of the Comparative Grammar of different languages we take the forms of expression employed in those languages, and seek to discover the common element which underlies their variations.

Grammar and Logic.

Incomplete Sentences.

Sentences admit, as a rule, of grammatical analysis into the Subject—that of which we speak or think, and the Predi-

cate—that which we speak or think about the subject; but some forms of expression fall outside this analysis. To this class belong interjections and exclamations, and all similar forms of expression. If a man for instance says *Thunder!* or *Snow!* we may look on these as predicates, to which the impression produced on his own ears or eyes is the subject. The cry of a baby then may be looked on as a predicate, as well as the incomplete sentences, e.g. *Horse*, meaning *That which I see is a horse*, of older children. Such in all probability was the character of the beginnings of language, which consisted of the emissions of interjectional sounds, at first perhaps involuntary and not intended for purposes of communication, but in course of time becoming limited in number and definite in character and meaning. Along with interjections can be ranked vocatives and such idioms as the use of the interjectional nominatives in Homer, e.g. αἰδώς, οὐ νέμεσις, etc., which stand as nominatives outside the rest of the construction, and are in fact complete sentences in themselves.

In other sentences we can recognise a subject and a predicate formally expressed. The simplest form of such a sentence will consist of the union of a simple predicate with a simple subject, e.g. *Cicero est consul.* The subject and predicate may, however, consist of many parts, and the relations of these parts to one another may be different. Still, even the most complicated sentences admit of this analysis, and all parts of the sentence can be grouped under either subject or predicate. Different words are used to express the various relations of subject and predicate and of their component parts, and are classified under the divisions of the *Parts of Speech* (λόγου μέρη). Subject and Predicate.

The Parts of Speech may be classified according to their (1) *Meaning* in themselves; (2) *Function* in the sentence; (3) *Inflexion* and *Formation*. Parts of Speech classified according to

1. According to meaning we find that some words denote persons, things, and abstract notions, and are called *Substan-* 1. Meaning.

tives. Other words express qualities or attributes belonging to a subject, and are called *Adjectives*, e.g. λευκός. Others denote relations of qualities or actions, and are called *Adverbs*, e.g. ποῦ, ποτέ. Others again express states and actions, and are called *Verbs*.

Substantives and adjectives are, as we shall see (p. 168), not always to be distinguished.

2. Function. 2. According to their function words can be distinguished into those which of themselves can *form* a sentence, those which can serve as *members* of a sentence, and those which serve to *connect* members of a sentence. Among words which of themselves can constitute a sentence we may rank *Interjections* and the forms of the *Finite Verb*, e.g. τρέχει, *clamat*, where the stem expresses the predicate and the ending the subject. This is, however, a property only of inflexional languages. Among words which can serve as members of a sentence we have the Substantive, which serves as subject, and the Verb, which serves as predicate. Other words besides Substantives can serve as subject, e.g. in such a sentence as *Slow and steady wins the race*. Other words besides the verb, such as substantives and adjectives, can serve in the predicate. In Greek the adjective by itself can serve as predicate, e.g. ὁ ἵππος λευκός (*the horse is white*), where the article distinguishes the subject, and no copula is required. In Latin, owing to the absence of an article, only past participles are, as a rule, used in this way, e.g. *fusi hostes*, except in some proverbial expressions, such as *omnia praeclara rara*.

Under the head of words which serve to connect members of a sentence come Conjunctions and Relative Adverbs.

3. Form. 3. According to their inflexion and formation words are distinguished into those that are inflected as *Nouns*, those that are inflected as *Verbs*, and those that are *Indeclinable*. Under Nouns will come Substantives, Adjectives which mark

distinctions of gender and admit of degrees of comparison, and Pronouns. Under Indeclinable words will come Conjunctions, Adverbs, Prepositions, Interjections.

Noun and Verb.

Throughout the different classifications the distinction of Noun and Verb as answering in the main to the distinction between Subject and Predicate is the most important. The other parts of speech express relations subordinate to the main distinction between Subject and Predicate. But the number of words is great, and the number of relations to be expressed are many and complicated. No division of the parts of speech can hope to be absolute. Had the grammarians come first in order of time, words might have been parcelled out in neat and definite divisions. But the grammarians came late into the field, after men had been using language to express their different needs according to their different capacities for countless generations. When language was at length reduced to writing, it could become fixed and independent of those who spoke it. Its usages could be analysed and classified, and become models for succeeding writers. The study of grammar apart from logic began in Europe at Alexandria, where scholars studied the earlier literature of Greece chiefly for the sake of settling the text of Homer, and later for the purposes of constructing a practical grammar to assist in the teaching of the Greek language at Rome. Plato had distinguished the ὄνομα and ῥῆμα. The Stoics recognised ἄρθρα (*articuli*), and provided an asylum for other words in the πανδέκτης or adverb. Aristotle had noted inflexion or πτῶσις, which included the inflexions of the Verb as well as the Noun, and even degrees of comparison. The Stoics confined πτῶσις to Nominal declension, and distinguished the *Nominative* (ὀρθή, εὐθεῖα), *Accusative* (αἰτιατική), *Genitive* (γενική), and *Dative* (δοτική) cases, as well as *Tenses* and *Moods* in the Verb. The Alexandrian grammarians distinguished eight parts of speech—ὄνομα (*nomen*), ῥῆμα (*verbum*), σύνδεσμοι (*conjunctiones*), ἄρθρα (*articuli*),

ἀντωνυμίαι (*pronomina*), μετοχαί (*participia*), ἐπιρρήματα (*adverbia*), and προθέσεις (*praepositiones*). The ἐπίθετον (*adjectivum*) was a division of the ὄνομα. As in the Latin language there was no article, the Romans kept eight parts of speech by separating *Interjections* from *Adverbs*. We can now take the different parts of speech in detail.

Noun. Under the noun we include nouns substantive and nouns adjective, between which two classes there is no general difference of formation. Substantives may be the names of individuals, e. g. Ἀλέξανδρος, an ὄνομα κύριον, *nomen proprium*, or Proper name; names of classes of individuals or things, e. g. ἄνθρωπος, an ὄνομα προσηγορικόν, *nomen appellativum*, or Common name; or names applicable to a group of individuals without being applicable to the members of the group, e. g. ὁμιλία, an ὄνομα ἀθροιστικόν, *nomen collectivum*, or Collective name. Nouns can also be distinguished into *Concrete* and *Abstract*, names, that is, of individuals and names of qualities. Names of qualities and Collective nouns are substantives. In the case of concrete nouns it is not easy to distinguish substantives from adjectives; for instance, in ἀνὴρ πολίτης, βοῦς ταῦρος, we have substantives acting as adjectives; in κακά, *evils*, we have an adjective acting as a substantive.

In the inflexion of Nouns we have to consider *Gender*, *Number*, and *Case*.

Gender. From a comparison of Indo-European languages we conclude that the original language possessed the distinctions of the *Masculine*, the *Feminine*, and the *Neuter* or indifferent gender. There are many words for instance whose gender is the same in Sanskrit, Greek, and Latin. A distinction must be made between *Natural* and *Grammatical* Gender. The distinctions of sex are distinctions of natural gender, and we expect to find *man* masculine and *woman* feminine in any language. In the case of names of things in which no distinction

of sex is obvious, gender fluctuates in different languages. English, for instance, is strict in confining gender to sexual differences, except in the case of poetic personifications, e. g. *She walks the waters like a thing of life*, of a ship. But in Greek, for instance, *καρδία* is fem., in Latin *cor* is neuter, and we need only refer to modern French and German as notorious instances of fluctuations of gender in the case of names of things which shew no distinction of sex. Such genders may be called grammatical. Now, apart from natural gender we find agreement in grammatical gender between Sanskrit, Greek, and Latin. For instance, *áṃsa*, *ὦμος*, *humerus* are masc., *vā́k*, *ὄψ*, *vox* are fem., *yugám*, *ζυγόν* and *jugum* are neut., among many other instances of agreement. These similarities point to an inheritance of grammatical gender from the original language. However, as the correspondence of Greek, Latin, and Sanskrit genders is not complete, we have to ask how differences could arise. In most instances the gender of a noun is determined by its stem-suffix. Now in the *A*-declension, though the stem-suffix is a mark of the feminine, we also find in Greek and Latin masculines of this declension. Such masculines were, it seems, originally feminine, but their meaning has changed, and with their meaning their gender. For instance, *νεανίας* (*a youth*) might have been originally a feminine *νεανια* used in the sense of *a company of youths* in general. Constructed in this sense with a plural verb, it might get a plural termination and become *νεάνιαι*. If *νεάνιαι* meant *youth* collectively, *νεανια* in the singular might naturally come to mean an individual *youth*, and after it had thus become masc. in meaning, it also became masc. in form, and instead of *νεανια* there arose *νεανίας* with the case-ending of the *O*-declension. In the *O*-declension, which is almost entirely masculine and neuter, some feminines are found, such as *νῆσος*, *ὁδός*, etc. These are masc. in form, and were in all likelihood originally so in gender. In some instances we

can trace changes of gender to the influence of analogy. For instance, δρόσος has been assimilated in gender to ἔρση from similarity of meaning.

Number. Like Sanskrit and Greek the original Indo-European language had three numbers, *Singular*, *Dual*, and *Plural*. Of these Latin has lost the dual except in isolated words, such as *ambo*. In all these languages there are sometimes differences as regards number between the form and meaning of a word. For instance, the singular is sometimes used in a collective sense with common names, e.g. ὁ πολέμιος, *hostis*, *the enemy*; *eques*, *cavalry*. The singular is also used where a single member is taken as typical of a class, e.g. ὁ Λάκων, *Romanus*, and in abstract sentences such as *Man is mortal*.

The plural number is sometimes used collectively, and regarded as a unity, and not as a number of distinct things, as for instance when in English we say *Another ten shillings*, or in Latin *una castra*. A bow, for instance, may be looked on as a whole consisting of parts, e.g. τόξα in Homer, and similarly δώματα (*house*), μέγαρα, ἅρματα, etc. In the same way we find the plural used of a class of natural objects, e.g. κύματα, ἄστρα, ῥέεθρα, and of parts of the body, e.g. νῶτα, στήθεα, πρόσωπα.

Dual. The Dual number is only found in Latin in isolated words such as *ambo*, *duo*, but in Sanskrit it is extensively employed, though in Greek it has become obsolete except in Homer and the Attic dialect. The Indo-European usage then must be determined from a comparison of Greek and Sanskrit. In these languages we find the dual used of things which go naturally in pairs, e.g. ὄσσε, *the eyes*, πόδε, *the feet*, ἵππω, *a pair of horses*; while, where two things only come together for a special time or circumstance, the dual is more rare. In Greek it must be admitted that the plural also is used of things which go in pairs, as for instance ἐν χερσὶν ἔθηκεν and ὀφθαλμοῖσιν ὁρᾶν. Either the plural has been extended at the

cost of the dual, or else, where the plural is used, the notion of *both* or *a pair* is not emphasised. As compared with Sanskrit, it may be said that in Greek the plural can always take the place of the dual.

Apart from the use of the dual of a noun by itself to signify a pair of things, we have δύο to signify two things or persons. Thus ἵππω would mean a *pair* of horses in a chariot, δύο ἵππω would mean *two* horses from a herd. So in Homer we have δύω θῆρε, λέοντε δύω, etc. Here again in Greek the plural can be used, and it is not possible to say whether this is a feature inherited from the original language or not.

We now come to the Cases (πτώσεις) of the noun, in which the different relations of the stem or main meaning of the noun to other parts of the sentence are expressed by the addition of certain suffixes called case-endings. With the Stoics the Nominative case was the ὀρθή or εὐθεῖα πτῶσις, while the rest were πλαγίαι, *oblique*, and deviations from the nominative. We now regard all cases, including the nominative or naming case, as inflexions of the stem, which provides the uninflected and unrelated meaning of the noun. The cases found in Sanskrit, Greek, and Latin have already been enumerated, p. 103. The only limit to the number of cases in any language is the number of relations which those who employ the language express by different cases. As the relations in which nouns can stand to other parts of a sentence are very numerous, there can be a great number of cases. But in Sanskrit, Greek, and Latin, and consequently in Indo-European, these numerous relations are grouped under a limited number of cases. For instance, Greek and Latin once had eight cases, but some of these have become obsolete. The Instrumental became obsolete, and its uses were absorbed by the Ablative in Latin and the Dative in Greek. Again, the Ablative disappeared in Greek, and its

Cases.

uses were transferred to the Genitive. Lastly, the Locative was replaced by the Dative, which in Greek had already swallowed the Instrumental. We thus see that it is a matter of history to determine the uses which went with each case in different languages.

Local theory.

Is it possible to discover a single principle underlying the various uses of each case? It has been supposed that the cases denoted in the first instance relations of space, and were afterwards gradually extended to the expression of more intellectual and abstract relations. Under the head of *Unde* (place *whence*) will come the Nominative, the case of the subject from which the action starts, and also the Ablative, which expresses origin and separation, and the Greek Genitive so far as it expresses ablatival meanings. Of the other uses the Accusative is the case of the object and will come under *Quo* (place *whither*), but this does not explain all the cases of the Accusative in Greek or Latin. Nor again can all the uses of the Dative be explained by referring them to *Ubi* (place *where*), or the chief uses of the Genitive by referring them to *Unde*. The Local theory of the cases, as it has been called, is then insufficient to explain all the different cases.

Local and Grammatical cases.

We may broadly distinguish cases into *Local* and *Grammatical*. What is meant by local we have already defined. Grammatical cases express relations which belong to the syntax of the sentence. If we go back to the period when eight cases existed in Latin and Greek as in Sanskrit, the classification is clearer. The Ablative and Locative are alone in origin local cases; the Nom., Acc., Gen., Dat., and Instrumental are grammatical. Of these last the Genitive is in some of its usages at any rate adnominal, further defining the meaning of a noun, while the other four may be classed together as adverbial, all serving in some way or other to limit and modify the action of the verb.

Fusion of cases.

Some cases, as we find them in Greek and Latin, may be called mixed and have absorbed the uses of other cases as

well as their own. The Dative in Greek in so far as it has absorbed the Locative is local, but in its other uses it is a grammatical case. The Genitive again is in Greek a mixed case, because in so far as it is Ablatival it expresses local relations, while in its other uses it is grammatical. In Latin the Ablative is mixed, for it is local in so far as it expresses place, and grammatical in so far as it expresses the instrument or manner of the verbal action.

The following table represents roughly the extent to which the eight cases of the original language have become fused in the derived languages :—

Latin.	*Indo-European.*	*Greek.*
Nom.	Nominative	Nom.
Voc.	Vocative	Voc.
Acc.	Accusative	Acc.
Dat.	Dative	Dat. (Dative, Instrumental, Locative)
Abl. (Instrumental, Locative, Ablative)	Instrumental	
	Locative	
	Ablative	Gen. (Ablative, Genitive)
Gen.	Genitive	

It must be understood that we are here using the names of the cases as they are ordinarily employed in the grammars, without raising the question as to whether e. g. the abl. sing. in *-ī* of the 3rd decl. in Latin is not in origin an instrumental.

How did this fusion of the cases come about? The answer may be sought in two different directions—

1. Looking to the *forms* of the cases, we may notice such facts as the following. The Sanskrit possesses a distinct form for the abl. sing. only in the *O*-declension; everywhere else it uses one form for the gen. and abl., thus coinciding with Greek. The existence in Latin, on the other hand, of ablatives of the 3rd decl. like *marid*, may partly account for the non-absorption of that case in Latin. Throughout Sanskrit there is but one form for the dat. and abl. plural, and the same is true of Latin. In the dual even Sanskrit only possesses three forms, a nom. voc. acc., an instr. dat. abl., and a gen. loc.

Lastly, by the laws of Latin phonetics a final *-ă* and a final *-ĭ* both necessarily become *-ĕ*, and accordingly the instrumental and the locative in consonantal stems of the 3rd declension are indistinguishable.

A coalition of the cases in some sort therefore is partly inherited from the primitive language and partly inevitable owing to the phonetic laws of the individual language; and a coalition beginning in the plural would extend to the singular and *vice versa*. Every language, however, and to some extent every declension has gone its own way in this matter. The dat. abl. plur. is lost in Greek but preserved in Latin. The instrumental plural is lost in Latin except in the *O*- and *A*-declensions, in which however for the most part the dat. abl. is not found.

2. Looking to the *usages* of the cases we may notice that in certain contexts their meaning is so similar that it is indifferent which is employed. Thus it is of small importance whether we speak of carrying a box *on* the shoulder or *with* the shoulder, but one of the two phrases would eventually predominate over the other, and so it comes to pass that in Greek the dative, which in the consonantal decl. is formally a locative, and in Latin the ablative, which is everywhere, after the loss of the final *-d*, indistinguishable from the instrumental, are exclusively used to convey this meaning.

Case forms which have become detached from their declensions, such as *χαμαί*, and shew no other cases from the same stem, are called *Adverbs*. *Prepositions* are words which have been called into existence to supply deficiencies in the cases and help them to express relations which they either cannot or do not clearly express. We can now take the cases separately.

Vocative. The Vocative is, as we have said, not properly a case at all. It stands by itself apart from the construction of

any sentence beside which it is used. It is in fact itself a complete sentence, as for instance in Ἥφαιστε, σοὶ δέ, etc., where the particle joins on one sentence to another without regard to the vocative. It has no proper case-sign but consists of the pure stem, e.g. ἵππε, πάτερ, etc. The nominative can always be used in its place, and in the plural it always is so used and there is no form peculiar to the Vocative.

Nominative.

The Nominative (ὀνομαστική) is the case of the subject of the sentence. As in fully inflexional languages like Latin and Greek the subject is expressed by the person-ending of the finite verb, e.g. δίδω-σι, it is not necessary for the subject to be expressed by a separate noun. Rather does the noun qualify the subject already given by the person-ending of the verb, e.g. βασιλεὺς δίδω-σι, *he, the king gives.* In impersonal verbs the subject given by the ending is vague and indefinite, e.g. *tonat, it* (what?) *thunders.* Sometimes this vague subject is expressed by a plural, e.g. in Homer, ἶσα ἔσσεται, *things will be even.* The nominative can serve in the predicate, in agreement with the subject of the sentence and defining its meaning, e.g. εὗδον παννύχιοι, *they slept all night long*, in which use it is called a secondary predicate. It can serve as predicate to an impersonal verb in such sentences as σοὶ δὴ κατηφείη καὶ ὄνειδος ἔσσεται.

Here also again we must note the Interjectional Nominative (p. 165), e.g. δημοβόρος βασιλεύς, *folk-devouring king!* νήπιος, *fool!* etc., where the nominative is a complete exclamatory sentence, and must be looked on as a predicate with a subject unexpressed, or expressed in speech by a gesture.

Accusative.

The Accusative is an *Adverbial* case. The Greek name was αἰτιατική, of which the Latin translation was *Accusativus.* The meaning of the Greek name depends on whether it is active, i.e. the case of *accusation*, which only refers to its use with a small class of verbs, or the case of *causing*, *Causativus*

as it is called in Priscian, or secondly passive, i.e. the case of τὸ αἰτιατόν, the *effect*, for which the Latin is *effectivus*. The relation in which the accusative stands to the verb with which it is constructed depends upon the meaning of the verb. The main distinction to be drawn is between the accusatives of the *External* and *Internal* object. In the one the action of the verb is directed to something outside of, and distinct from the meaning of the verb; in the other the accusative repeats more or less completely the meaning of the verb. For instance in ἕλκος ὅ με οὔτασε the acc. ἕλκος repeats the meaning contained in οὔτασε and may be called internal, while μέ is altogether distinct from and outside the meaning of the verb and may be called external.

External. The ordinary use of the External Accusative, as the case of the object with transitive verbs, requires no illustration. The number of such accusatives is very great, and they can only be classified according to the different sorts of verbs with which they are constructed. In Sanskrit and Latin these accusatives are sometimes used with nouns with a verbal meaning, e.g. *nomina agentis*, in such instances as *justa orator* (Plautus). Of similar origin is the construction of the accusative after the forms of the infinitive (p. 146), after participles and in Latin after gerunds, supines and verbal adjectives in *-bundus*, all of which are nominal in origin, though they have become absorbed into the verbal conjugation. Other uses of the external accusative, which may be reckoned as Indo-European, are the accusat. of the *terminus ad quem* or object to which motion is directed, e.g. ἔρχεσθον κλισίην (Homer); *Lavinaque venit litora* (Virg.). We need not suppose that this use is anything more than a special instance of the ordinary use of the accusat. serving to complete the meaning of a verb of motion *towards* a place by indicating the goal, just as with verbs of motion *from*, e.g. φεύγω, *fugio*, it indicates the point of departure. External too is the *Accusativus de quo*, of the person, that is, about whom anything is said or

thought, e.g. ᾔδεε γὰρ ἀδελφεὸν ὡς ἐπονεῖτο (Homer); *Quid censes hunc ipsum S. Roscium quo studio esse*, etc. (Cicero).

The accusative of the *Internal Object* repeats the meaning **Internal.** of the verb in a greater or less degree and may be described as adverbial. Sometimes, for instance, the accusative limits the meaning of the verb to the part affected, e.g. ἀλγεῖ τὴν κεφαλήν, *Tremit artus*, the so-called accusative of Respect. From parts of the body this use of the accusative is extended to other conditions, e.g. εὖ εἶχον τὰς ψυχάς. It is also found with nouns as well as verbs, e.g. βοὴν ἀγαθός, *hirsuta capillos*. First of all it was used with the verb, e.g. ἔοικα, then with the verbal noun, e.g. ἐοικώς, and then with the adjective of cognate meaning, e.g. ἴσος. In Latin this accusative is explained as a Graecism, but wrongly, for the usage is inherited from the original language. In Sanskrit it is rare but occurs with *nāma*, as in Greek with ὄνομα. It is not hard to see how this accusative, though original, fell into comparative disuse in Latin and Sanskrit, for other cases took its place. Thus even in Greek we find εὐρύτερος ὤμοισιν, where the dative takes the place of the acc., while in Sanskrit the instrumental is preferred and in Latin the ablative.

The so-called Cognate Accusative must like the Accusative of Respect be regarded as an adverbial use of the case in a defining and qualifying sense. Such phrases as *ludum ludere*, πόλεμον πολεμίζειν are to be explained in the same way as ἡδὺ γελᾶν, *perfidum ridens*, viz. the accusative qualifies the verb as an adverb. In such a phrase as ἄλληκτον πολεμίζειν (*to war unceasingly*) we need not suppose an ellipse of πόλεμον, for the use of πόλεμον needs just as much explanation as that of ἄλληκτον and must be explained in the same way. In both Greek and Latin there are many neuter adjectives and pronouns used as adverbial accusatives, e.g. σμικρόν τι, οὐδέν, ἀμφότερον, *quantum*, *parum*, *id aetatis*, and many more. As adverbial accusatives must also be ranked the accusatives of space and time, which need not be illustrated. Adverbial

again is the use of the accusative in apposition to the rest of the sentence, e.g. χάριν, πρόφασιν, *vicem*, or in such a sentence as *Pars ingenti subiere feretro, triste ministerium* (Virg.).

Double Accusative.

Verbs which are constructed with a double accusative have one of the external, one of the internal object. The internal goes closely with the verb, e.g. κακὰ-ῥέζει and forms a new verbal notion with which an external accusative is constructed, e.g. κακὰ-ῥέζει τινα. In Latin this construction is rare except with a neuter pronoun as the internal accusative. Such phrases as *rogare populum consulem* are evidently early extensions of the construction which survive only as technical idioms.

The construction of the accusative after the past partic. in Latin, confined mostly to the poets, falls under two heads: (1) where the partic. is plainly middle the case is the ordinary external acc., e.g. *unum exserta latus*, (2) where the partic. is passive, the accusative is internal and adverbial, e.g. *per pedes trajectus lora*.

Genitive.

As with the Accusative the starting-point was the construction with verbs, so with the Genitive the starting-point is the construction with nouns. As the acc. was primarily adverbial, so the genitive is adnominal. The Greek name of the case was γενική of which the Latin rendering was *Genetivus*, but this would rather point to a Greek γεννητική, or case of origin. The γενικὴ πτῶσις was the case of the γένος, e.g. in τοῦ ζῴου τὸ μὲν θνητόν κ.τ.λ. the genitive represents the γένος or larger class of animals, while the noun to which it is attached represents the species, or smaller class mortal. The connexion of the genitive with the noun with which it goes is close, but the nature of the connexion can only be determined by the meaning of the sentence. The relation for instance may be that of *possessor* to *possessed*, *cause* to *effect*, *part* to *whole*, etc., and in different languages there are differences of idiom. We will now consider what uses of the true genitive may be

classed as original. Of genitives with nouns we find in Greek, Latin and Sanskrit the genitive expressing: (1) *son of*, e. g. Σωκράτης ὁ Σωφρονίσκου. In Latin this usage is only found with foreign names. We may however compare *Flaccus Claudi* (F. the slave of Claudius); (2) *possession*, e.g. ἡ οἰκία τοῦ πατρός: (3) the *material* of which a thing consists, e.g. οἶμοι κυάνοιο, but it is doubtful if this is a Sanskrit use; (4) a *partitive* sense, e.g. *aliquid temporis*, δῖα θεάων, (5) *subject* or *object*, ὁ φόβος τῶν πολεμίων, the fear which the enemy feel, or the fear felt of the enemy; (6) besides these are the genitives with adverbs of place and time, ποῦ γῆς; *ubi gentium?* τρὶς τῆς ἡμέρας, etc.

The genitive is also used with verbs both in Greek and Sanskrit and to some extent in Latin. This use of the genitive must be compared with that of the accusative. The genitive is less completely than the external accusative the object of the verbal action, and hence its use with verbs has been described as *Quasi-Partitive*, for the action of the verb is qualified. Amongst the verbs which are constructed with a genitive which answers to an accusative of the external object are Verbs: (1) of *sharing* and *giving*, e.g. ἐδίδου τῶν ἑαυτοῦ, (2) of *eating*, *drinking*, *tasting*, etc., e.g. λωτοῖο φαγών, (3) of *hearing*, *perceiving*, *knowing*, etc., e.g. εἰδότα χάρμης, and verbs of *remembering* and *forgetting*; (4) of *ruling*, e.g. τῆς θαλάσσης ἐκράτησεν, *regnavit populorum*; (5) of *wrath*, *complaint*, and *condemnation*, etc., Κύκλωπος κεχόλωται, κρίνομαι θάνατου, *capitis damnare*, as well as verbs of *desiring*, *aiming at*, etc. In Sanskrit, verbs of *taking delight in*, *hating*, etc., are constructed with a genitive. All the above sets of verbs may be regarded as having constructions inherited from the original language, though each use is not equally common in Sanskrit, Greek and Latin, Greek being freest in its use of the genitive with verbs.

A use of the genitive which may be reckoned as primitive, though more common in Latin than Greek, is the predica- Predicative.

tive genitive, e.g. αἵματός εἰς ἀγαθοῖο, *magni animi esse*, where the genitive serves as the predicate of the sentence. This is plainly a development of its use with nouns.

Local and Temporal. The genitive is used in Greek in a local and temporal sense, expressing not like the acc. the extent of an action, but the limits within which it takes place. Thus θέειν πεδίοιο means "to run within the limits of the plain," while πλεῖν θάλασσαν is "to sail over the sea." The genitive in the local sense is not certainly original. The temporal genitive on the other hand seems to have been original, and occurs both in Greek and Sanskrit, e.g. θέρους, χειμῶνος, νυκτός. In Latin the ablative is used, e.g. *quadriduo quo haec gesta sunt* (Cic.). From this use possibly came the genitive absolute in Greek, e.g. ἠελίου ἀνιόντος, *within the time of the sun's rising*. In Sanskrit the locative, in Latin the ablative are the cases used absolutely, to express the time or circumstances in which the verbal action takes place, without having regular construction with the verb.

Ablatival. The Genitive is used in Greek as the case expressing *separation and origin*, which are the meanings belonging to the original Ablative case. In Latin the ablative has the meaning of an instrumental and locative case as well as the meaning of the ablative proper. What formal traces there are of an ablative case in Greek have been given, p. 104. We find the ablatival genitive in Greek with verbs of *leaving freeing*, *hindering*, and the like, e.g. ἔσχοντο μάχης, βάθρων ἵστασθε, and also with such adjectives as κενός *empty of*, γυμνός *bare of*. In some cases it is not easy to say whether the case has the meaning of the ablative or the true genitive. With verbs of *hearing*, for instance, the genitive may express the source *from* which we hear, or the person *in* or *of* whom we hear something. Again the genitive expressing the material of which a thing is made, with such verbs as τεύχω, ποιῶ, may be that *from* which a thing is made, or partitively that with some *of* which something is made. The Latin

usage, e.g. *perenni fronde coronam*, points to an ablatival origin.

Ablatival is the use of the genitive with comparatives and superlatives, where the case expresses the starting-point of comparison. Of a like nature are the genitives which are constructed with verbs expressing *excellence*, *wanting*, etc., e.g. λείπομαι, δέομαι. To the same class belongs the genitive of price, the meaning of which is ablatival, e.g. ἔλυσεν ἀποίνων, *released in return for*. This genitive might however go as the true genitive with a noun, e.g. τεύχεα ἑκατὸν βοῶν, *arms of* or *worth one hundred oxen*, and similarly in Latin *magni*, *tanti*, *quanti*, etc.

Ablative.

The Ablative survives as a distinct case in Sanskrit and Latin, and roughly speaking corresponds to the uses of the ablatival genitive in Greek, that is to say it is the case of separation and origin.

The other usages of the Latin ablative are due to its absorption of the instrumental and in part of the locative cases. The instrumental had two meanings, corresponding to the two uses of the English *with*. It denoted either the means or the accompaniment of the action, whether persons or circumstances. The latter meaning is usually made clear by a preposition, but survives in Latin in isolated expressions mostly belonging to military language, e.g. *omnibus copiis proficiscitur*. The ablative of the *road by which* is, to judge from Sanskrit, instrumental, and therefore *jugis venire* must be separated from πεδίοιο θέειν.

Instrumental.

The transference from the instrumental of *accompaniment* to that of *means* arises from instances in which the accompaniment is also the means, e.g. νηυσὶν ὀχεῖσθαι, *curru vehi*. Here besides the ordinary Latin ablatives of *cause* and *instrument* are to be placed the ablatives of *price*, like the Greek dative in πρίατο κτεάτεσσιν ἑοῖσιν (Hom.), and of *fullness*, like the Greek Ἕλλησι πλήρεις πόλεις (Eur.).

Locatival. The locative use of the ablative is widely distributed in Latin. Besides the type *Carthagine*, *Athenis*, etc., we have *pendere animis*, *tenere se castris*, *sedere solio*, *vincere pugna*, and the ablatives after *niti*, *confidere*, *stare* (*promissis*), etc. It is used in a temporal sense in *mane*, *nocte*, etc. (Greek ἤματι, νυκτί).

The 'ablative absolute' is evidently not a pure ablative, but rather as the Sanskrit shews, a locative, though no doubt after the fusion of the locative and instrumental in Latin, it acquires some of the meaning of the latter case. It corresponds therefore not to the Greek genitive absolute, but to the dative in such cases as τί μοι ἢ νέον ἢ περιτελλομέναις ὥραις πάλιν ἐξανύσεις χρέος; (Soph.)

The Dative. The forms of the Dative in Greek, as has been already seen (p. 104), are partly dative, partly locative, partly instrumental, and so it is with the functions of the dative. It is therefore a mixed case. In Latin the instrumental and locative meaning have passed to the ablative, except where a locative case, e.g. *domi*, still remains.

1. True Dative. (1) The true dative expresses the person *to* or *for* whom something is done, as for instance with verbs of *giving*, *shewing*, *helping*, *gratifying*, etc., in Sanskrit, Latin, and Greek. This requires no illustration. It also stands with nouns of meaning similar to these verbs, e.g. ἐχθρός, φίλος, *amicus*, etc., and with substantives in δῶρα τοῖς θεοῖς, etc.

A dative is used in Greek in a predicative sense with εἰμί, γίγνεσθαι, ὑπάρχειν, e.g. βουλομένῳ μοί ἐστιν, etc. This dative in the case of nouns denoting things is in Greek very rare, though common in Latin, e.g. *praesidio esse*. In Greek the infinitive takes its place (p. 146).

Another use of the true Dative is to stand in a looser connexion with the predicative verb and denote the person interested in or affected by its action. This is the *Dativus Commodi* or *Incommodi*. Thus while δέχομαί τινος means to

receive from some one, Θέμιστι δέκτο δέπας means to receive *as a favour at the hands of.* Under this head may come the dative of the agent which is used with verbal adjectives, and with passive participles, e.g. τὰ σοὶ πεπραγμένα, *formidatus Othoni*, where the act is looked on as a possession or advantage belonging to the person in the dative. In Latin this dative is usually found with verbals and past participles only, e. g. *nobis facienda*, things *for* us to do, *nobis facta*, things we have *got* done. Under the *Dativus Commodi* come the Ethic Dative, e. g. τί ἐμοὶ καὶ σοί; and the Dative of Relation, e. g. *oppidum primum venientibus ab Epiro*, συνελόντι εἰπεῖν, etc.

(2) The dative in a locatival sense denotes the place of an action, and is commoner in Homer than in later Greek. In Sanskrit there is a special locative case, while in Latin place *where* is with few exceptions expressed by the ablative. Instances in Greek are αἰθέρι ναίων of place, and ἀριπρεπέα Τρώεσσιν of persons. 2. Locatival Dative.

The dative is found after verbs of motion, e. g. πεδίῳ πέσε, *it clamor caelo*, where it answers the question *Quo?* and shews that *quo* is not a meaning confined to the accusative alone.

(3) The instrumental use of the dative, like the Latin ablative, expresses the accompaniments or the means of an action. Thus in the sense of the accompaniments of an action, whether persons or things, we have the dative used with ἕπομαι, ὁμιλέω, and such nouns as κοινός, ἀκόλουθος. To this sense belongs the idiomatic use of the dative with αὐτός, e. g. αὐτοῖς ἀνδράσιν (*men and all*), the addition of the pronoun marking that the dative is to be taken in this sense. Of datives which express the attendant circumstances of an action we may instance βίᾳ, σιγῇ, χρόνῳ. Sometimes it is used in a way which resembles the use of an adverbial accusative, e. g. εὕδειν ὕπνῳ, φόβῳ δείσας. 3. Instrumental Dative.

From the sense of accompaniment the instrumental dative passes to the sense of means, in such instances as δουρὶ

τυπείς, and in its use with the passive also expresses the agent, e. g. Πηλείωνι δαμείς, a use confined to the perf. pass. in classical Greek.

Cases in -φι. The Case forms with -φι are used in the sense of the Instrumental, Locative, and Ablative cases, and very rarely in the sense of the true Genitive and Dative. These forms have been mentioned, p. 108. Of the instrumental sense βίηφι is an instance, of the ablatival ναῦφιν ἀφορμηθεῖεν, of the locatival, which is more rare, ὄρεσφιν. These forms are to be found in Homer and his imitators, but even in Homer they occur in archaic phrases.

Adjectives. Of adjectives we have already spoken. No sharp line of division can be drawn between substantives and adjectives. Thus an adjective can be used as a substantive, e. g. ἡ δεξιά, *the right hand*, and substantives can be used as adjectives, e. g. ἀνὴρ στρατηγός. In declension, apart from differences of stem-suffixes, adjectives are distinguished by marking the gender. Sometimes they are of three, sometimes only of two genders, and sometimes Sanskrit, Greek, and Latin agree in this respect, e. g. εὐγενής, *degener*. Many Greek adjectives in -ος have no special form for the feminine, the explanation apparently being that they were originally substantives, which on becoming adjectives have marked the neuter by a separate ending, but have not added a special ending for the feminine, e. g. ἥμερος, ἕκηλος, ἥσυχος.

The Verb. The Verb has been already distinguished into its various parts (p. 120). We may assume that the original Indo-European verb had four tense-stems, Present, Perfect, Aorist, and Future, and four moods, Indicative, Subjunctive, Optative, Imperative. The person-endings were nine, three for each number.

The Voices. There were originally two Voices, *Active* and *Middle*, distinguished by differences of inflexion; and this distinc-

tion remains in Sanskrit and Greek. In Latin the passive in *-r* is comparatively rarely used in a middle sense; but a large number of the deponents formed with the same suffix are undoubtedly middle in origin (*utor*, *vescor*, *potior*, etc.).

Not all verbs in Greek and Sanskrit appear in both voices. (1) Some roots appear only or mainly in the active, e.g. √*as* εἰμί, √*bhū* φύω, √*gā* βαίνω. (2) Others appear only in the middle, e.g. √*ās* ἧμαι, √*çi* κεῖμαι. (3) Others again, of which there are many in Sanskrit, have both an active and a middle voice, e.g. τίθημι, φέρω, etc. In some verbs, e.g. θέω, θεύσομαι, the active is appropriate to one tense-stem, the middle to another.

Active verbs are either (1) *Transitive*, i.e. they require, to complete the sense, the addition of an object, a noun other than the subject, upon which the subject is represented as acting; or (2) *Intransitive*, when they do not require an object, e.g. τρέχω, *I run*. Sometimes an active verb can have both transitive and intransitive meanings, e.g. ἐλαύνω with an object is transitive and means *drive*, while without an object it is intransitive and means *march*; and so in Latin with *ruo*. We might then, instead of distinguishing transitive and intransitive verbs, speak only of the transitive and intransitive *uses* of verbs, though from the meaning of their roots some verbs are naturally transitive and others intransitive, and were so in the original language. The Active Voice.

In the case of ἐλαύνω it would seem that the object is suppressed rather than that the verb is, strictly speaking, ever intransitive. The Latin *duco* is used in the same way, and both usages seem to belong to the language of the camp, and thence have passed into the language of writers who dealt with military matters.

In the Middle Voice the subject is represented as acting *for himself* or *upon himself*. We can distinguish the following uses as common to Sanskrit, Greek, and, in some degree, to Latin. (1) The *reflexive* sense, where the The Middle Voice.

object is the direct object of the action of the verb, e.g. λούομαι, *lavor*, *I wash myself*, a sense which is rare. (2) Where the subject is less directly the object of the verbal action, e.g. μεταπέμπομαι *I send* (for some one) *to come to me*, *purgor bilem*, *I get rid of my bile.* (3) The *intransitive* use, where the reflexive meaning is faint, e.g. ἔρχομαι, *I come*, οἴομαι, *I think*, *morior*, *I die.* (4) The *reciprocal* use, e.g. ἀμειβόμενος *taking his turn*, which has no representative in Latin. (5) The *passive* use, e.g. φιλεῖται, *amatur*, *he is loved.*

Distinction of Active and Middle.

No distinction can be made between active and middle on the ground that the active forms are transitive, the middle intransitive. Many active verbs are intransitive, and many middle verbs transitive, e.g. βούλομαι τοῦτο, *admiror te.* Many verbs again have some tenses active and others middle in form without any difference of meaning, e.g. ἁλίσκομαι, ἑάλωκα, *audeo*, *ausus sum*, or the numerous verbs in Greek with an active present and middle future, e.g. ᾄδω ᾄσομαι, φεύγω φεύξομαι, etc., while in the poets we sometimes find active or middle forms used indifferently without change of meaning, e.g. ἰδεῖν, ἰδέσθαι in Homer. In Sanskrit as well as in Greek and Latin the different tense-stems of the same verb are at times of different voices, and all this goes to shew that the line of distinction between the active and middle voices is not always clearly defined.

The Passive Voice.

The *Passive* sense was originally one of the uses of the middle voice. In Sanskrit a special form of present stem, consisting of the root and suffix *-yá*, is used in a passive sense with middle inflexions. Thus from √*han*, *smite*, comes the passive present *han-yá-te*, *he is smitten.* In other tenses, e.g. aorist and perfect, the ordinary middle forms can be used in a passive sense.

In Greek the so-called passive voice consists in great part of tenses of the middle. The present, imperfect, perfect, and sometimes the future middle are used in a passive sense, e.g.

ἀδικήσομαι, *I shall be wronged.* We have already discussed the origin of the passive aorists in -ην and -θην (p. 131). The person endings of these aorists are active in form, and the passive sense has grown out of the intransitive meaning of the stems. Thus in Homer many of the aorists in -ην are intransitive in meaning, e.g. ἐχάρη, *he rejoiced,* ῥυῆναι *to flow.* If the cause of the action is to be expressed, this is done by the addition of an instrumental case, e.g. Πηλείωνι δαμείς, he collapsed *at the hands of the son of Peleus,* where the dative expresses the circumstance which attended and caused the action. This easily passes into the passive *subdued by the son of Peleus.* How closely the intransitive and passive meanings are related we can illustrate by comparing ἐκόπη ὑπ' αὐτοῦ with ἀποθανεῖν ὑπ' αὐτοῦ, where the aorist, active in form, is used as the passive of ἀποκτείνω, and similarly in Latin poetry we have such phrases as *ab hoste cadere.* As further instances of verbs active in form and intransitive in meaning used in a passive sense, we may quote ἐκπίπτω, φεύγω, *pereo, veneo.* Special instances of verbs middle in form habitually used in a passive sense are κεῖσθαι as passive of τίθημι and γίγνεσθαι as passive of ποιῶ.

In Latin as in Greek the passive was developed from the middle voice, but in Latin the passive has supplanted the middle, and passive forms in a middle sense are comparatively rare and mostly poetic, e.g. *induitur cornua, he puts on horns.* The Passive in Latin.

Deponent verbs have in Latin a passive form but middle or active meaning, and are to be found at all periods of the language. In the early Latin there existed in many cases active forms with the same meaning, e.g. *imito* beside *imitor:* in other cases there are traces of active forms with a transitive meaning, corresponding to the later deponents with a middle meaning. Thus *compotire, to make master of,* answers to the middle *potior.* Even in classical Latin the past participles of deponents are sometimes used in a passive sense, and the gerundives universally. The fact Deponents.

that deponents have present and future participles of an active formation must be due to the existence of an earlier active form. We see then that in the Latin deponents the passive and the middle have been combined while the corresponding active voice has gone.

The Infinitive.

As the Infinitive was in its origin an oblique case of a noun (p. 146), it does not properly admit of distinctions of voice. In Sanskrit it has no such distinctions, while in Latin there is a special form in the passive only for the present stem. In Greek fresh infinitives have been formed from the different tense-stems in both active and middle, and so instead of a single infinitive form, e. g. **δοῦναι**, *for giving*, we have **δώσειν, δίδοσθαι, δεδόσθαι, δοθῆναι**, etc. Still, in such an instance as **Θεμιστοκλῆς ἄξιος ἦν θαυμάσαι** (Thuc.), *was worthy for admiring*, the infinitive has its original abstract nominal force.

Tenses.

The different tense-stems denote the time of an action. In some sentences the time is absolute and has no reference to any definite point of time, as in such an instance as *A centaur is a fiction of the poets*, which applies to past, present, and future alike. Further, an event may be present, past or future with reference to the time of speaking, viz. *is happening*, *has happened*, *will happen*. Again an event may be present, past or future with reference to some point in the past, viz. *was happening*, *had happened*, *was to happen*, or to some point in the future, viz. *will be happening*, *will have happened*, *will be going to happen*. Where the time denoted by the verb is not relative to the time of speaking, it is relative to the time of some other verb in the sentence. For instance in **Θεμιστοκλῆς ἥκει** the time of **ἥκει** is relative to the moment of speaking, but in **ἔλεγεν ὅτι Θεμιστοκλῆς ἥκει** it is relative to the time of **ἔλεγεν**, an event in the past. In Sanskrit, Greek and Latin we have different tenses to express present, past and future in re-

Relative Time.

lation to the moment of speaking, but not to express all the relations of present, past, and future to the time of other verbs in the sentence. For instance the imperfect denotes an event contemporaneous with something in the past, the pluperfect an event prior to a point in the past, the future perfect an event prior to a point in the future, but other relations of time have to be expressed by periphrases or gathered from the context.

Kinds of Action. Besides the time of an event the tense-stems signify a difference in the character of the action. As in Greek and Sanskrit the augment is the sign of past time, differences of time are appropriate to the Indicative alone, and in the other moods a difference of tense-stem has another significance than difference of time. Thus the present denotes an action now *going on*, the perfect an action which is *completed*, and the aorist a *momentary* action, and these are distinctions which can be expressed by these tense-stems in whatever mood they appear. Not all verbal roots admit of the formation of all the different tense-stems. Some have only one, e.g. pres. *ὁράω* but aor. *εἶδον*, pres. *θέω* but aor. *ἔδραμον*, pres. *ferio*, aor. *percussi*, and this is true of Sanskrit as well as Greek and Latin. We can now take the different tense-stems in detail.

Present. The present has no distinguishing mark of time like the augment of the past tenses or the suffix of the future, and is therefore nearest to a timeless tense, as in such a sentence as *Man is mortal.* It can also denote an action as going on at the time of speaking, e.g. *γράφω*, *I am writing*. Besides this, which is its proper meaning, the present can be used of past events in the idiom of the Historic present, which is common in Latin and Greek (though not in Homer[1]). It can also be used of future time in prophecies. In the use of the historic present the speaker transports him-

[1] In the Homeric *πάρος γε μὲν οὔ τι θαμίζεις* the pres. is used of past time, but the adverb *πάρος* serves as a sort of augment.

self into the past and dramatically represents the past as present; in the use of the present as future the coming event is represented as already happening, e.g. ἀπόλλυμαι, *pereo, I shall perish.* Sometimes the present is used in the sense of the perfect, e.g. ἥκω, *I am come*, οἴχομαι, *I am gone*, or with an adverbial addition, κεῖνον ἰχνεύω πάλαι, *jamdudum loquor.*

Different Present Stems. As there are many ways of forming the present stem, it becomes a question whether all these different formations originally had the same meaning. Thus in Sanskrit from √*bhṛ*, *bear*, we have the presents *bharti*, *bharati*, *bibharti*, which seems a needless luxuriance. It may be that originally different present stems denoted different kinds of action, and that one present stem meant *to be going* continuously, while another meant *to go* of a single act, as in the *I go, Sir, but went not* of the Gospels. Although as a matter of fact in the case of some present stems, e.g. ἡβάσκω, *puerasco, I grow young*, there is a special meaning connected with the form of the stem, yet in the case of others we find no difference of meaning.

Imperfect. From the present stem is formed the imperfect, which represents an action as going on in past time. In Sanskrit it is the tense of narration, but in Greek its place as a tense of narration is often taken by the aorist.

Aorist. As with the present, so with the aorist there are different tense-stems. Thus in the active we have the root-aorists and the sigmatic aorists, but there is no general difference of meaning to be discerned, even supposing that originally the different formations had a different meaning.

The aorist denotes the simple occurrence of an event in the past without specifying how near or how distant it is in reference to the time of speaking, e.g. ὁ Κῦρος ἐτελεύτησεν. In Latin the aorist and perfect have combined in a single tense. In Greek the aorist has become the tense of the narration of past events, a province which in Sanskrit belongs to the im-

perfect. Sometimes the two tenses are combined, as for instance in the common legal formula ἔδοξε τῇ βουλῇ, Κεκροπὶς ἐπρυτάνευε κ.τ.λ., where the main fact is put in the aorist and the accompanying minor details in the imperfect. This is also the normal usage in Latin, the main fact being expressed by the aorist perfect, the accessory circumstances being put in the imperfect or pluperfect. The aorist in similes and proverbs has a timeless use, e.g. ὥς τε λέων ἐχάρη, a usage also found in Latin poetry. When employed in subordinate sentences the time denoted by the aorist is relative to that of the principal verb, as for instance in ἐτράποντο ὅθεν ἀνηγάγοντο, *eo postquam Caesar pervenit, arma poposcit*, we translate the subordinate aorists by pluperfects. Such meanings do not belong to the aorist itself, but are due to its conjunction with the rest of the sentence.

As to the character of the action denoted by the aorist-stem in all the different moods, it is *momentary* as opposed to what is *continuous*, e.g. ἐδάκρυσε, *he burst into tears*, and denotes the *result* as opposed to the *process*, e.g. ἔπεισε, *persuasit*, *he convinced*. When an artist wished to lay stress on the simple fact that he was the author of a work of art, he inscribed ἐποίησε: when he wished to imply that he had spent labour on its production, he wrote ἐποίει. It is possible that the different shades of meaning denoted by the aorist may once have belonged to its different stems. The sigmatic aorist, for instance, may have denoted the moment of entering upon an action or condition, e.g. ἐβασίλευσε, *he began to reign*, while the thematic aorist may have denoted the result, e.g. πεσεῖν, *to fall*. But of this there is no proof.

A use of the aorist which we must regard as inherited from the original language is its use, especially in Homer and tragedy, to denote an event which has just taken place, e.g. ἐπῄνεσ' ἔργον καὶ πρόνοιαν, *I must approve*, etc., and this use is to be found in Sanskrit.

The moods of the aorist denote past time only when they

occur in subordinate clauses and represent the corresponding tense of the indicative in a principal sentence. Otherwise they have no temporal sense but merely denote the character of the action, for, unlike the indicative, they are without the augment which in Sanskrit and Greek is the sign of past time. The use of the optative to express past time in reported speech is peculiar to Greek, though there is a more or less corresponding use of the subjunctive in Latin (p. 211).

Perfect. The perfect in Sanskrit is used as a tense to denote sustained and energetic action. The sense of completed action which belongs to the perfect may have been developed from the sense of sustained energy, e.g. βέβληκε, *makes his hit*, after doing his best. In Sanskrit the perfect appears as a present of completed action like the Greek κρατέω, *I am victorious*, and, like the aorist, it is sometimes used in place of the imperfect as the tense of narration. In Greek we find the perfect in Homer used to denote a permanent *state*, e.g. ἔμμορε, *has for his share*, or an *attitude* or *temper*, e.g. δέδεγμαι, *am in waiting*, ἔολπα, *hope*, and it is rarely used in the sense of the English perfect with *have* to denote an action that is completed, a use which is common in later Greek and in Latin. In Homer the aorist is used in this sense, e.g. νῦν δὲ κακὴν ἀπάτην βουλεύσατο, *he has devised*. The Homeric sense of the perfect remains in later Greek in the use of μεμνῆσθαι, οἶδα, τέθνηκα, Latin *memini*, *novi*; but as a rule the perfect comes to express completed action. In Latin the fact that the forms of the aorist and perfect have been confused has led inevitably to a confusion of meanings, and so the Latin perfect answers to both the perfect and aorist in Greek. Periphrases in Greek and Latin, like οὐρανὸς γεγονώς ἐστι, *pecunias collocatas habeo*, are not to be regarded as equivalents of the perfect, but contain a double predication, e.g. *have been invested, and I have them.*

As the imperfect is an augmented present tense, so the pluperfect is an augmented perfect. In Greek the tense is used more frequently than in Sanskrit and either has an intensive meaning or, as in Latin, denotes an action fulfilled in the past, corresponding to the two meanings of the perfect stem. **Pluperfect.**

The future denotes that an action, whether continuous or momentary, will take place in time to come. It is a question whether the time of the future refers to the subject expressed in the person-ending or to the speaker. In the case of the first person there is of course no doubt, for both speaker and subject are the same. But in the case of πράξει, was the original meaning *he will act* at a time future to the standpoint of the speaker, or *it is now his intention to act*? Upon the answer to this question depends the relation in which the future is to stand to the subjunctive mood. According to one view the oldest use of the future is its use to denote the purpose of the subject, a meaning which is best seen in the use of the future participle, e.g. ἐπέδραμε τεύχεα συλήσων. In course of time the sense of purpose, expectation or fear, called forth by contemplated action, was transferred from the subject to the speaker, and the future came to express what the speaker thinks is likely to happen. Another view derives the sense of purpose which is found in the uses of the future from the temporal sense it has in denoting consequence, while the sense of purpose will belong more properly to the subjunctive mood. The future then, as having other than temporal meanings and involving the mental attitude of the subject or speaker, is almost a mood rather than a tense and must be considered in close connexion with the subjunctive mood. We may note that Sanskrit has a future subjunctive though Greek has none. **Future.**

Differences of Mood signify differences in the mental atti- **Moods in**

independent sentences.

tude (ψυχικὴ διάθεσις) of the speaker, and these differences are expressed by differences of formation. All inquiry into the meaning of the moods must start with independent sentences. How old some forms of subordinate sentence are, we cannot say; but the simple independent sentence must be the oldest, and from the combinations of simple sentences have arisen the complex constructions of later syntax. If we find in Homer the combination μή τι ῥέζῃ in the sense of *I fear he will do something*, we must not explain the use of μή by saying that δείδω is omitted, for this is to explain an earlier idiom by a later usage, and to turn a simple sentence into a complex one. It is not to be supposed that there is one meaning for the moods in independent, and another in dependent sentences. Each mood had its own proper sense, but in course of time there grew up different uses of the moods as they were employed in the expression of new shades of meaning. The indicative, for instance, is the mood of simple assertion, but in Greek we find it used in conditional sentences, in final sentences and in wishes.

In Greek we shall take our instances mainly from Homer, for it is there that we find the freest use of the subjunctive and optative in independent sentences, a use which in later Greek became more restricted. In Latin there is unfortunately nothing which corresponds to the syntax of Homer. Our knowledge of the earlier stages of the language is very small, nor are we able to follow its later development without interruption. The interval between Terence and Cicero, which we know must have been important in the history of the language, is hardly represented at all in the surviving literature.

(*a*) Subjunctive of Will.

The fundamental meaning of the Subjunctive Mood is to express the *will* of the speaker, what he intends for his part to do.

Affirmative.

1. With the first pers. sing., e.g. δύσομαι εἰς Ἀΐδαο καὶ ἐν νεκύεσσι φαείνω (Homer), where the sun threatens, that after

setting as he is bound to (fut. indic.) in the course of nature, he *will* shine among the dead. This meaning is appropriate to the first pers. alone. In the first pers. plur. we have the hortatory use of the mood, e.g. φεύγωμεν, *let us fly*, which is equivalent to an imperative. In Latin the usage with the first sing. is unknown, though it is possible that the passage of some forms of the subjunctive (like *regam*, *audiam*) to the future indic. may be due to this usage. With the first plur. it is common.

In the 2nd and 3rd pers. the subjunctive still expresses the will of the speaker, but as addressed to someone else, it implies that that person is to perform it, i.e. it becomes a command, e.g. φέρ', ὦ τέκνον, νῦν καὶ τὸ τῆς νήσου μάθῃς (Soph.), or as in an Elean inscription τὸ ψάφισμα ἀνατεθᾷ ἐν τὸ ἰαρόν, both of which are quite rare idioms in affirmative sentences in Greek as compared with Sanskrit and Latin, e.g. *faciat*, *let him do*. Latin even by a peculiar idiom extends the usage to the past tenses of the subjunctive, which then become a command with reference to a past event, i.e. according to our idiom a statement of what it was desirable should be done, e.g. *imitatus esses ipsum Voconium*, *you should have followed the example of V.* This is called the Jussive use.

2. With μή in prohibitive sentences, e.g. μή σε κιχείω (Homer), *see that I do not find you*, μὴ ἐάσῃς, *do not allow* (never with the present in classical Greek) and μὴ τοῦτό γε νεῖκος γένηται (Homer), *I do not wish this to be a quarrel.* Prohibitive.

The Latin usage does not differ, except that classical Latin in prohibitions addressed to a definite person uses the perfect subjunctive. This tense etymologically seems to be optative (p. 157), but nevertheless *ne feceris* was felt as a command not a wish.

Greek by scarcely ever using the 2nd and 3rd pers. subj. in an imperative sense in affirmative sentences preserved a distinction between the subjunctive and imperative. In prohibitions the subjunctive was used; for, as we have seen (p. 144), the imperative was not originally the mood so employed.

So far the subjunctive has been shewn to signify the speaker's will, which as directed to other persons becomes a command. The subjunctive then has been used in imperatival senses. We now come to the uses in which the subjunctive approximates to the uses of the future indicative and expresses what is bound to happen. Both these senses of the subjunctive are found in Sanskrit as well as in Homeric Greek, and both must be attributed to the subjunctive of the original language, nor are we in a position to pronounce that the one is older than the other.

(*b*) Subjunctive as Future.

1. In negative statements with *οὐ*, e.g. *οὐ γάρ πω τοίους ἴδον ἀνέρας οὐδὲ ἴδωμαι* (Homer), *no nor shall I see*; in the 3rd pers. *οὐ γάρ τίς με δίηται* (Homer), *no one shall chase me.*

2. In interrogative sentences, e.g. *τί ποιῶ*; *what am I to do?* This use is called the Deliberative Subjunctive, and might be classed as imperatival, for the negative is *μή*, e.g. *τί λέγω τί δὲ μή*; but on the other hand we find the future indicative employed in a similar sense, e.g. *μητέρ' ἦ φονεύσομεν*; In Latin, *non* is the negative which goes with the Deliberative Subjunctive, but it is difficult to class this use of the mood here, owing to the fact that there are no sure traces in Latin of the subjunctive in a future sense.

Of the above uses of the subjunctive in Greek we must note that they are mainly Epic. The only uses of the subj. in independent sentences in classical Greek are the Hortatory, Deliberative, and Prohibitive. It is the Epic uses which correspond to the Sanskrit and which represent the original language.

Optative.

The fundamental meaning of the optative mood is *wish.* As in the subjunctive we found sometimes the sense of *will,* and sometimes a sense of the *necessity* of the future, so in the optative we find sometimes a sense of *wish,* and at other times merely an *admission of possibility.* The optative is a milder mood than the subjunctive in meaning, for *wish* only implies a desire to realise what you may not succeed in

obtaining, while *will* implies the intention to obtain what is within your power.

The optative can signify: (1) Wish, e.g. τεθναίην, *moriar, may I die*, in all persons. In Latin it is in this use indistinguishable from the subjunctive. As a kind of mild imperative especially in the 2nd pers. we have πίθοιό μοι (Homer). A negative wish is expressed by the addition of μή, Latin *ne*, e.g. μὴ γένοιτο. (2) In a milder sense of acquiescence or concession we have the optative in αὖτις Ἀργείην Ἑλένην Μενέλαος ἄγοιτο (Homer), *Menelaus may take Helen back. Ne sint in senectute vires, it may be that old age is feeble.* Here also may be set the clauses with *quamvis* and *licet*, which are properly clauses signifying, '*as much as you please*,' '*it is conceded*.' (*a*) Wish.

All the above uses may be regarded as belonging to the *wish* meaning of the optative, in which it inclines to the sense of a mild imperative. Only the first is to be found in Attic Greek, where the pure optative in independent sentences is only used to express wish, either with or without εἴθε, εἰ γάρ. Similarly in Latin *O si, utinam*, may be used or not, at will.

(*b*) Potential. The optative has a second set of meanings, in which it expresses merely willingness to admit consequences, and approximates to the meaning of a mild future, when it does not differ much from the sense of concession. This is the potential use, found in Attic in combination with ἄν and in Homer with ἄν or κέν.

The use of ἄν or κέν, which is a Greek, not I.-E. usage, implies that the speaker is thinking of particular circumstances and not making a general statement. This distinction is most clearly seen in Homer.

The potential optative appears in the apodosis of conditional sentences which state a supposed future case less vividly than the future indicative and subjunctive. In negative sentences οὐ is employed with the potential uses of the mood, even where it is used in questions, and has the sense of a polite imperative, e.g. οὐκ ἂν δὴ μείνειας, *will you not stay?* i.e. *Stay!* This use of οὐ shews that the potential use of the

optative is akin to the future indicative rather than the imperative.

The potential uses of the subjunctive in Latin, e.g. *Id velim mihi ignoscas, I could wish; Jam mallem Cerberum metueres, I could have preferred; dixerim*, etc., are not different to those of Greek except in the absence of a qualifying particle. The mood which we call the subjunctive in Latin is really both in form and meaning a compound mood. It contains some tenses that etymologically are optative, e.g. *sim, fuerim*, others that are apparently etymologically subjunctive, e.g. *moneam*, and it combines in one system of tenses the meanings of both moods, any form being capable of being used either as optative or conjunctive.

Imperative. Of the origin of the Imperative we have already spoken. It is a mood made up of forms of different origin (p. 144). In Sanskrit it is almost confined to the present tense. In the earliest Sanskrit prohibitions are expressed by *mā*, not with the imperative proper but with certain so-called injunctive forms (p. 145). The different tenses of the imperative in Greek as well as the use of the mood to express prohibition belong to the special history of that language. Thus the idiomatic μὴ κλέψῃς represents the earlier form of prohibition, while μὴ κλέπτε represents an extension of the imperative from its use in commands to a use in prohibitions. The use of the imperative in Latin calls for no special remark, beyond the fact that there is an increasing tendency in the language to substitute a subjunctive or a periphrasis for the negative with the imperative. In classical times *ne saevi* is confined to poetry, *ne facito* to the legal style.

Indicative. The Indicative is primarily the mood of simple assertion. From this it is extended to negative and interrogative sentences. Further the indicative is used in Sanskrit, Greek, and Latin, and other languages to express supposition, e.g.

εἰ ἔστι, *si est*, etc. These are the most general uses of the mood. But as language developes, its functions seem to be extended. This can be illustrated by a comparison of Homeric and Attic syntax, when we find that in Attic the uses of the subjunctive and optative have become limited, while that of the indicative has been extended. For instance, in Homer, the optative with ἄν can be used of a past condition, e.g. καί νύ κεν ἔνθ' ἀπόλοιτο ἄναξ ἀνδρῶν Ἀγαμέμνων, *would have perished;* in Attic only the imperf. or aor. indic. could be so used. We find the use of the indicative extended so as not only to denote facts, but also to imply the non-fulfilment of a condition, e.g. καλῶς ἂν εἶχεν, *it would have been well.*

In sentences expressive of wish the use of the indicative implies that the wish was unfulfilled in the past, e.g. εἴθ' ἐγένετο, *would it had happened.* Properly perhaps the optative was the mood of unfulfilled condition, but the mood which possessed the augment and could denote the past was employed to shew that the imaginary event was referred to the past. This is borne out by the fact already noticed that the optative could be used in this sense, and that Latin uses the historic tenses of the subjunctive.

Of the future indicative we have already spoken. It stands apart from the rest of the mood, for in meaning it goes closely with some of the uses of the subjunctive. In Homer we have the future used with κέν, e.g. ὁ δέ κεν κεχολώσεται, *he will be angry*, and often it is hard to say whether a form is aorist subj. or fut. indic. The future is also used in final clauses like the subjunctive. In Latin the similarity and indeed partial identity of form between the pres. subj. and fut. indic., and perf. subj. and fut. perf. has been already noticed (p. 157). Latin, however, does not go so far as Greek and substitute the fut. indic. for the subj. in final clauses. The two moods on the contrary, though formally much more akin than the corresponding forms of Greek, are syntactically kept distinct.

Infinitive.

We have already spoken of the substantival origin of the Infinitive. Its sense as the dative of an abstract noun remains in Greek, especially in Homer, e.g. λεῖπε φορῆναι, *left for carrying*, and in the so-called epexegetic infinitives. In the Latin poets we sometimes find the primitive use, e.g. *Ibat et hirsutas ille videre feras* (Propert.). From being a word of limitation attached to the main verb the infinitive came to be in sense the subject of a sentence. In impersonal sentences the subject was vague and the infinitive took its place, e.g. οὐ μὲν γάρ τι κακὸν βασιλευέμεν (Homer), *it is no bad thing to reign*, passing into *to reign is no bad thing*. In later Greek, by the addition of the article, e.g. τὸ βασιλεύειν, the infinitive passes into a substantive employed in all the cases. The infinitive can also serve as the object of the sentence and out of this was developed, as we shall see, the idiom of the Accusative and the Infinitive.

Concord in predication. Concord in gender.

Now that we have spoken of the use of the Moods in simple sentences we will deal with the Syntax of Concord. The agreement of a predicative word, in gender, number, case or person with the subject of the sentence arose first in sentences in which the predicate was identical and felt to be convertible with the subject. Subject and predicate were therefore assimilated to one another, and this agreement was extended by analogy to other cases where the relation between subject and predicate was different. If, for instance, we say, '*This is the justice of the gods*,' there can be no doubt that '*this*,' indicating something which is only made intelligible by the addition of the predicate, will naturally stand in the neuter, singular or plural. Nevertheless, as early as Homer, we find αὕτη τοι δίκη ἐστὶ θεῶν, where the predicate has been made conformable to the subject, because in this type of sentence subject and predicate are coextensive.

Concord in person.

The concord of person must have originated in those expressions where the subject, originally existing in most

cases in the person-ending, was for the sake of emphasis repeated over again. In some languages not of the Indo-European family the 3rd pers. sing. has no personal termination, and in this case the nominative is related to the verb in the same kind of way as the personal pronoun in Indo-European languages. The third person sing. in Indo-European languages may be represented in its primitive form by *go-he* (=*he goes*); in other languages it may be of the type *father go* (=*father goes*). On this shewing προσέφη κορυθαίολος Ἕκτωρ is strictly, *Hector, he spake*, a form of expression common in our own ballad poetry. It is true that the personal termination has disappeared in προσέφη, but it represents an earlier προσεφη-τ, so that at one stage of the language the subject was repeated twice over.

Inflexional languages have only partly abandoned this type. In *dicit* the personal termination is still the subject of the verb; in *pater dicit* the feeling for the personal termination has to a great extent disappeared and we say that the verb agrees in person with its subject. In modern languages for the most part it is the last usage which alone survives.

Concord of gender and number with verbs.

The concord of gender and number similarly originated in the pronoun, e.g. *i-mus*, *go-we*, more emphatically *nos imus*, and starting with agreement in natural gender was extended to grammatical gender as well. There is not always strict grammatical concord, for sometimes the construction follows the sense of the passage, e.g. *Capita conjurationis virgis caesi* (the heads of the conspiracy were men, etc.), φίλτατ' Αἰγίσθου βία. Such constructions are called κατὰ σύνεσιν, *according to sense*, by the grammarians, but that is no proof that they are not earlier than constructions more strictly grammatical. In the case of number the concord is not always strict but the meaning is allowed to influence the construction. Singular collective nouns sometimes go with a plural verb, e.g. ὣς φάσαν ἡ πληθύς, *Pars saxa jactant.* Similarly in English the word *people* is habitually combined with a plural verb. In

Greek a singular verb is used with a neuter plural subject and this in Attic Greek is the rule. In Homer, however, we find that if the plural can be regarded as a whole or unity, it is generally constructed with the singular, whereas if its separation into parts is emphasised, it is constructed with the plural. Thus of the timbers of a ship as a whole we have *δοῦρα σέσηπε*, but of a number of separate spears *δούρατα μακρὰ ἧιξαν*. This represents probably the idiom of the original language. As to the dual we may remark that as it fell into disuse the rules of strict concord were neglected.

The grammars will give instances of other types where, *e.g.* the subject being in the singular and the predicate in the plural, the verb agrees sometimes with the first, sometimes with the second, a good deal depending on its proximity to one or the other; or where the verb agrees not with the subject but with something in apposition to it or to which the subject is compared (*ὅσοι ὥσπερ ἡμεῖς ἐπιβουλευόμεθα*). In every case the principle is the same; the verb originally agreed with the subject, but concordance has been extended in the development of language to cases to which it does not strictly apply.

Concord in Case.

Concord in case is due to apposition, though here again there is no absolute necessity for using the case sign twice. In such an expression as '*Lord Bacon's works*' we are content to use it only once. The fact is that in '*Lord Bacon*' the two words were originally in apposition and, both performing the same function in the sentence, would naturally both be in the same case. But in modern English the connexion between the two words has come by usage to be very close. At an earlier stage of the language we should have a form corresponding to the German *des Herrn Carlyles*, which was still in use at a recent date, though even in German we should now say *des Herrn Carlyle.*

Develop-

So far we have dealt with the simple sentence. It now

remains for us to consider how the simple sentence is developed into the compound sentence. ment of Simple Sentence.

Apart from the merely interjectional sentences like '*Fire!*' '*Thieves!*' which are mentioned above (p. 164), the simplest type of a fully developed sentence consists in the connexion of a single predicate with a single subject, e.g. *Cicero est consul*; or as a more primitive type still, with predication by mere juxtaposition, ἀγαθὸς ὁ ἀνήρ. In more complex sentences subject and predicate can consist of different parts.

Passage of the predicate to the attributive.

A further step, still within the domain of the simple sentence, is taken when the predicate is weakened into a mere attribute of the subject. In such a case as '*He begged me on his knees*,' it is not easy to say whether '*on his knees*' goes more closely with the subject or the predicate. In cases of this kind, where we have two predicates attached to one subject, but one is the main predicate, the other less emphatically so, we are able to see the process by which what was originally predicate comes to be merely an attribute of the subject.

Development of the Compound Sentence.

A second method of amplification of the simple sentence is that by which a combination of subject and predicate is itself presented as subject or predicate to a further member of the sentence. Thus in *reddo te beatum*, *memini me audire*, *beatum* and *audire* were originally predicates of *te* and *me* respectively; but in the development of the language '*me audire*' and '*te beatum*' have come to be merely amplifications of the main verbs *reddo*, *memini*. Here we are on the borders of the compound sentence, and indeed the first instance would probably be classified as a simple, the second as a compound sentence. But it is clear that no sharp line of distinction is to be drawn between them.

As indicating other lines of development of the compound sentence we may notice the use of nouns in apposition to sentences and sentences in apposition to nouns, e.g. *hoc reliquomst, si infitias ibit, testis mecum est anulus*—Ἑλένην κτάνωμεν

Μενέλεῳ λύπην πικράν—*Pars subiere feretro, triste ministerium.* In the former case we may remark that the developed language adopts in such phrases a more elaborate form of expression, indicating the subsidiary character of the clause in apposition by introducing it with *ut* or *quod.* As it stands the instance given corresponds to a possible *Memini; ego audivi,* where the last clause, though logically, is not grammatically subordinate. Grammatical subordination is a later development and expressed by the accusative and infinitive.

Parataxis and Hypotaxis.

Parataxis and Hypotaxis.

That coordination or parataxis of clauses precedes subordination or hypotaxis has become a common-place. We cannot, however, suppose that hypotaxis is of recent origin in language; for as far as we can go back in the history of human speech, we find the degradation of sentences to a completely subordinate position fully established. Nor, again, is it true to say that the hypotactic constructions differ in nothing from the paratactic except that two sentences originally distinct have been fused into one. It may be the fact that the earliest forms of hypotaxis are not *grammatically* distinct from those of parataxis, *licet*: *veniat* becomes *licet veniat* with no further change except that whereas originally we had two sentences, now we have merely one. But from the *logical* point of view in an aggregate of sentences or clauses some one or more must contain the main facts, to which the statements in the other clauses are variously related as cause, result, condition, etc. In narrative the accessory character of some clauses is often indicated by the use of the relative tenses, the imperfect or pluperfect, contrasting with the present or aorist in the principal clause, e.g.:—

Ἔδοξε τῇ βούλῃ καὶ τῷ δήμῳ· Κεκροπὶς ἐπρυτάνευε, Μνησίθεος ἐγραμμάτευε, Εὐπείθης ἐπεστάτει, Καλλίας εἶπε.

So

Stridebat deformis hiems praedamque recentem
Servabat: tamen hic *properat.*

Here we have real logical subordination, which is also indicated grammatically by the tenses employed, though all clauses alike would ordinarily be classed as principal. The same distinction is observed even when the logically main clause is syntactically subordinate, e. g.

Talia *iactabam* et furiata mente *ferebar*
Cum mihi se . . . *obtulit* . . . alma parens.

Moreover, looking at the question simply from the grammatical point of view, in a phrase like '*Rogat me quid faciam,*' representing in oratio recta '*quid facio?*' it is plain that we have something more than two originally coordinate clauses welded into one, and that we must look to something else than mere parataxis to explain the construction.

Not merely sentences of statement, but also those of interrogation and command are capable of standing in logical subordination. Often they act as clauses giving the condition of the action of the principal clause, and may be paraphrased by hypothetical clauses, e. g. *Sint Maecenates, non deerunt Marones*, *φράζε καὶ πεπράξεται*, *Seek and ye shall find*, *Is any merry? let him sing psalms.*

Classification of Dependent Clauses.

Classification of Dependent Clauses.

Dependent Clauses fall into two great groups, which may be named respectively the *Final* and the *Conditional.* We must, however, interpret these terms in a very wide sense.

1. Final Clauses are those whose characteristic it is that normally they are placed after the main clauses,—a fact which indicates that to the grammatical conscience of a primitive people their action was conceived of as posterior to that of the main clause. Syntactically they are distinguished by the fact that the time from which they are regarded is fixed by the main verb. They will include not merely clauses of

Purpose (Final clauses strictly so called), but also clauses of Consequence and Object-clauses of the type **δείδιε μὴ λαιμὸν ἀποτμήσειε**, etc.

2. Conditional Clauses are normally placed before the main clause and their action was therefore conceived of as prior to that of the main clause. Syntactically they are distinguished by the fact that they are regarded from the point of view of the time of the speaker. They will include all clauses of condition, hypothesis, circumstance, and the like.

These two groups of clauses are not always introduced by special particles. For example, the relative clauses both in Greek and Latin belong to both groups, according to their meaning in the particular sentence in which they occur. Similarly *ut* in its final and consecutive uses belongs to the first head, in its temporal and concessive usages to the second; *ἵνα, in order that*, is final, *ἵνα, where*, is conditional.

Final Clauses.

The subjunctive in final clauses is evidently the subjunctive of will, and the optative in Greek in similar clauses is the optative of wish or expectation. The only remarkable thing in the usage is, that whereas the clause is strictly only appropriate after a first person or an imperative (which is still the most common type in Homer), it comes to be used of the purpose of a third person, even where the speaker has no influence in the question.

Thus from

εἴδομεν ἠέ τῳ εὖχος ὀρέξομεν ἠέ τις ἡμῖν,

it is an easy step to

εἴσεται ἤ ῥα καὶ οἷος ἐπίστηται πολεμίζειν,

where the subjunctive is analogous to the subjunctive in indirect questions in Latin. Where the purpose is that of another or the event is past, the feeling of will or assurance is out of place, but an expression of expectation is less inappropriate. Accordingly we get the optative in such cases as:

δίζε γὰρ ἠὲ μάχοιτο, κ.τ.λ. δῦν' Ἄϊδος κυνέην, μή μιν ἴδοι ὄβριμος Ἄρης.

A word is due to consecutive clauses. In Greek ὥστε is constructed with the indic. or the infin., and the question of the moods does not come in. The subj. in consecutive clauses in Latin is remarkable, but is perhaps to be placed with the Greek opt. as expressing a *possible* or an *expected* rather than an actual state of things. *Non talis sum qui hoc faciam* means *I am not the man who would* (in a conceivable case) *do this*. As far as the *ut*-clauses, however, are concerned, it is possible that the analogy of the final clauses may have been operative. An expected result is not to be sharply distinguished from a purposed result, and as in Greek the ὥστε clauses with the infin. approximate to the meaning of the final infinitive, so in Latin *ut non* and *ut ne* are often almost interchangeable. The question how a clause expressing the expectation of a *possible* result came to be used to express a real result belongs to the special syntax of Latin.

Under the head of Final Clauses in Greek may be put the final clauses after ἵνα, ὡς, ὅπως, ὄφρα, μή, the relative clauses expressing purpose (in the Homeric usage with the subj., which is replaced in Attic for the most part by the fut. indic.), and the temporal clauses with ἕως (ἄν), etc., in the sense of *until*.

In Latin we have the final clauses proper (whether with *ut*, *ne*, or a relative), the consecutive clauses, and the clauses with *dum*, etc., so far as they take a subjunctive.

Conditional Clauses.

The Conditional Clauses include all those clauses which express the pre-existing conditions which determine or modify the action of the main clause. Thus they include:—

(i). Causal Clauses, whether with the relative or with a particle (ὅτι, οὕνεκα, ὡς, *quod*, *quia*, *quoniam*, etc.). These, however, may be ignored for our purpose, as the mood in Greek is universally indic., and to a great extent in Latin.

The use of the subj. in causal *cum* and relative clauses in Latin belongs to the special syntax of that language.

(ii). Clauses which limit the action of words of saying and thinking by giving the object of the verb. Here again the syntax of the two languages separates. The most important class are the indirect questions, which in Latin universally have the subj. In Homeric Greek the subj. is found in double questions with ἦ—ἦ, and in such cases as πειρήσεται αἴ κε θέῃσι, but in these cases the subjunctive is deliberative (p. 196) and the clause is to be classed as final. Here again, therefore, we must look for an explanation of the construction in Latin alone for the most part.

(iii). Clauses of condition and limitation, with ὅς, a relative adv. of time, place, or manner (ὡς, ὅτε, ὁππόθι), and εἰ. The subj. only appears in classical Greek in combination with ἄν. The typical case in Greek is the εἰ clause, with subj. and opt., though the opt. with an adverb in an indefinite sense is of some importance. In Latin, with some exceptions (such as the *cum* clause of circumstance and other adverbs in analogous senses, which seem to take the subj. by a purely Latin idiom), the *si* clauses are the most important. Concessive clauses fall under the same head, but of these *quanquam* has the indic., while *quamvis* takes the subj. only in virtue of the original paratactic construction, *quamvis taceas* properly meaning 'you may be as silent as you like.'

Putting aside the combination of adverbs with ἄν or κε as a purely Greek idiom, not falling within the domain of comparative syntax, it is plain that for Greek the εἰ clauses are the most important for the determination of the original meaning of the opt. and subj. in these constructions. In these clauses it can hardly be doubted that the subj. and opt. are the subj. and opt. of will and wish. The negative is regularly μή, the negative not of statements, but of commands; and εἰ was perhaps originally of an interjectional character, as in εἰ δ' ἄγε, introducing expressions of wish or

supposition, to which an assertion of the consequence of the wish was appended as an apodosis. *εἰ* with the subj. and opt. therefore respectively means '*I would have you suppose*,' and '*I would wish you to suppose*.'

With Latin the case is different. *Si* and *εἰ* can hardly be connected etymologically, in view of the Oscan *svai*, and against the connexion is the further fact that the negative in Latin is *non*, not *ne*. The mood in Latin, therefore, is the subj. or opt. in the sense of a more or less vivid future, and in favour of this is the fact that a *si* clause with the pres. subj. is always of future time. The subj. is therefore the potential subj. expressing what might happen under a given set of circumstances, modified by the fact that the subj. in Latin has acquired the power of expressing temporal relations, which is denied to the corresponding moods in Greek. But though the use of the pres. subj. in such clauses for future conditions requires no comment, the very remarkable usage by which the imperf. subj. is used of unreal conditions in present time yet awaits explanation.

Change of Person and Mood in Dependent Clauses.

Change of Person and Mood in Dependent Clauses.

Two things are specially noticeable in the subordinate sentence in Greek and Latin—the change of person and the change of mood.

The change of person admits of easy explanation. The first and second personal pronouns are appropriated respectively to the speaker and the person spoken to. Any one not a party to the conversation is referred to by the third personal pronoun. If A asks B, 'What are you doing?' B reporting this to C, says, 'A asked me what I was doing,' as the preservation of the second person would lead to ambiguities. Take this a step further and let D repeat to C the conversation between A and B; he will say, 'A asked B what he was doing,' neither A nor B being any longer parties to the conversation. It is true that an ambiguity

still remains in English and in Greek, as the pronoun *he* may equally refer to A or B. Greek and English are content for the most part to leave the solution of the difficulty to the intelligence of the listener; Latin alone provides an expedient by means of the pronoun *se*, which ceases to be employed as the ordinary third personal pronoun and becomes a reflexive, referring in the majority of cases to the person whose words are reported. It is interesting that Sanskrit preserves in such cases the exact words of the original speaker, only appending to them the particle *iti*, to indicate that an exact quotation is being made.

The change of mood is more difficult. In Greek the rule is that after primary tenses, where the dependent clauses all have a relation to the time of the speaker, the original moods are kept; after secondary tenses, where the dependent clauses have a relation to some event in the past, the optative is for the most part employed. We might have expected that in final clauses, for example, to which by the nature of the case the subjunctive of will is appropriate, to find after primary tenses in the main clause primary tenses of the subjunctive, after secondary tenses secondary tenses of the subjunctive. There is, however, no reason to suppose that either in the subjunctive or in the optative any distinction of *time* exists between the primary and secondary tenses (p. 189). If this is so, the secondary tenses are obviously inappropriate to express the required relation, and the optative is therefore employed, not as conveying precisely the meaning required, but as approximating to it in being analogous in meaning to the subjunctive, and less vivid. The expression of will is inappropriate to past events; the expression of expectation is at least less inappropriate. By a somewhat similar shift Greek uses the past tenses of the indicative in such cases as—

τί μ' οὐ λαβὼν
ἔκτεινας εὐθύς, ὡς ἔδειξα μήποτε
ἐμαυτὸν ἀνθρώποισιν ἔνθεν ἦν γεγώς,

not but what the indicative in a final clause is strictly speaking an absurdity, but the expression of past time is essential to the sentence, and past time can only be expressed in the indicative.

With regard to Latin the question is at present probably insoluble. We can see that the subjunctive is used in oratio obliqua, because by the nature of the case the statement is distinctly made not as a fact, and therefore the indicative is inappropriate. But until some satisfactory result is arrived at as to the origin of the so-called subjunctive in Latin, till we can say confidently whether the imperfect, the most important tense, is in origin a subj. or an opt. (or, what is perhaps possible, a form corresponding neither in origin nor in meaning precisely to either mood as we know them in other languages) the question of the precise meaning conveyed by the employment of the mood is best left in abeyance.

However, the use of the subj. in oratio obliqua in Latin and of the optative in Greek is only the expression in those particular languages of a principle that is common to other Indo-European languages. The machinery employed is no doubt different in the several cases. Greek uses the optative after ὅτι and ὡς in historic sequence, but also avails itself to a large extent of the infinitival constructions, and in primary sequence with ὅτι or ὡς simply quotes the words of the original speaker, merely adapting the person to the new circumstances. Latin restricts the subj. to dependent clauses, elsewhere using the inf., which it even extends to some types of reported question. Modern German, with some limitations, uses the subjunctive in clauses not introduced by the narrative *dasz*. In every case the feeling which leads to the use of the mood is plainly that the assertion is not made with sufficient confidence to warrant the indic. The statement is not vouched for as true, but only put as probably or possibly true. The subj. and opt. may therefore be classed

as potential; and it is natural to compare such usages as the French conditional, '*il aurait à peu près doublé*' (*it should have doubled=it is said to have*), and the German '*Es soll wahr sein.*'

It may be further noticed that in all three languages the mood thus used gradually ceased to be employed in main clauses in a potential sense. In classical Greek the potential optative is practically only found with ἄν; the 'pure' potential subj. is very limited in its use in Latin and unknown in German. In this way it would easily come to pass that the subj. (opt.) came to be regarded simply as the mood appropriate to dependent clauses in such cases.

As to the construction in oblique narrative we can trace a distinct development even in the Greek and Latin literature that has come down to us.

As regards Greek we may say that the optative is found in Homer representing a dubitative subj. after a past tense, as in—

δίζε γὰρ ἠὲ μάχοιτο . . ἦ λαοὺς . . . ὁμοκλήσειεν,

and in indirect questions, such as—

νημερτὲς ἐνίσπες εἴ πως . . . ὑπεκπροφύγοιμι,

but is unknown in oblique statement after ὅτι (ὅ), etc., though cases like Ζεὺς . . οἶδε . . εἴ κέ μιν ἀγγείλαιμι ἰδών . . afford the model (apart from the opt. after a primary tense), which may have originated the later construction with ὅτι.

Similarly in Latin we can trace a development between Plautus and Cicero in the treatment of indirect questions, Plautus often preferring to employ the words of the original question, and not fully subordinating it as a dependent clause. So *aspice venturo laetantur ut omnia saeclo* (Virg.). But for oblique statement the construction with the infin. has established itself for the most part from the first.

The Development of the Relative Clause.

The De- An important step is taken in the development of the

velopment of the Relative Clause.

compound sentence when the demonstrative pronoun (Gk. ὅς), which properly is deictic, and refers to some object in the external world present either actually or mentally to the speaker, comes to be used as an *anaphoric* pronoun, referring to something previously mentioned in the sentence. This is the history of the Greek ὅς, the German *der*, the English *that*. Thus these pronouns come to be used merely as a formula for introducing a logically dependent clause, and a clause logically dependent comes in time to be regarded as syntactically dependent.

For example—

> καὶ ἅμ' ἡγεμόν' ἐσθλὸν ὄπασσον
> ὅς κέ με κεῖσ' ἀγάγῃ,

no doubt originally meant '*Give me a guide; he shall* (*is to*) *lead me*'; but the latter clause, always logically subordinate, develops into a clause syntactically subordinate, and we translate '*Give me a guide who may lead me.*'

The interrogative pronoun in Greek and Latin is also the indefinite (τίς, τις, *quis*, *qui*), a fact which is made intelligible if we consider the similarity of meaning between *Who will do this?* τίς τοῦτο ποιήσει; *quis hoc faciet?* on the one hand, and *Will any one do this?* τοῦτο ποιήσει τις; *hoc faciet quis?* on the other. Out of the interrogative use Latin has developed the anaphoric or relative use. The Latin relative clauses are cases of simple parataxis, the relative being originally interrogative:—*Quem librum habeo? eum librum do*, becomes *quem librum habeo eum librum do*, a form of expression common in legal Latin; and then by economy of language *quem librum habeo do, eum librum quem habeo do*, and even *librum quem habeo do.* After the pronoun has come to be merely relative, there is no difficulty in the variation of the order of clauses. The same thing has happened in the ὅς clauses in Greek, which ought strictly to follow, but frequently precede the main clause. In a similar way, the modern English *who* is both interrogative and relative,

but the relative use has been developed out of the interrogative. The corresponding Anglo-Saxon *hwá* has only the latter meaning.

It is to be noticed that the possession of pronouns and adverbs from the stem *i̯o-* forms one of the most characteristic points of Sanskrit and Greek as opposed to Latin, and necessitates a different explanation of the dependent relative clauses in the two groups of languages. Without going into the question at greater length, we may notice that there are three other important points common to Sanskrit and Greek, but not found in Latin,—distinct forms for the passive as opposed to the middle voice, the prohibitive negative Sk. *mā*, Gk. μή, and the particle κέν, Sk. *kam*. These facts taken together seem to widen the gulf between Greek and Latin, which the morphology of the languages has already proved to exist.

Accusative with Infinitive.

Accusative with Infinitive. The construction of the accus. with the inf. is characteristic in a remarkable degree of Greek and Latin. The name is confessedly a misnomer. In origin the accus. could only have been constructed after the main verb. Thus in λαοὺς δ' Ἀτρείδης ἀπολυμαίνεσθαι ἄνωγε, λαούς is the direct object of ἄνωγε, and the infin. is purely epexegetic (*gave an order to the people for purifying themselves*). But in ἄκουσε τείρεσθαι Τρῶας the accus. by itself cannot be regarded as the object of ἄκουσε—rather the object is the state or action indicated by the infinitive, and the person in the state or performing the action is indicated by the accusative. But inasmuch as τείρεσθαι Τρῶας implies the statement ἐτείροντο Τρῶες, τείρεσθαι is practically predicated of Τρῶας, and this construction accordingly becomes the type whenever a clause containing subject and predicate is subordinated to a verb '*sentiendi et dicendi*,' even though these verbs for the most part cannot of themselves take a direct accusative.

The accus. thus comes to be combined with an infin. in a purely mechanical way, and so we find the usage extended to constructions with impersonal and neuter verbs; e. g.

ἄμφω γὰρ πέπρωται ὁμοίην γαῖαν ἐρεῦσαι, *laetus sum laudari me abs te.*

From this point a further development takes place. With verbs taking a double accus. an infin. may be substituted for one accus. *Doceo te latine loqui* does not differ from *doceo te latinas litteras*, but it can hardly be said that the first sentence implies the statement *loqueris latine*, especially as the first accus. may be omitted. But as the latter construction gives birth to *doceris latinas litteras*, where the verb is in the passive and the original object has become the subject of the verb, so *audio Balbum esse in Syria* produces the construction of the nom. c. inf., as *audiebatur Balbus esse in Syria.*

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